PROJECT INFORMATION

Project Title	June Loop Fuels Reduction Project
Brief Description	The June Loop Fuels Reduction Project will implement fuels reduction treatments on four land units equaling 89 acres in the June Lake Loop area. These treatments will create 100-foot defensible space zones around developed facilities on U.S. Forest Service land and at the boundaries with private properties, where there are homes or other facilities. The work, which will be completed over a two-year period, will decrease the likelihood of a large-scale, high intensity wildland fire and preserve the overall health and resilience of the Grant Lake-Rush Creek 6th level sub-watershed, which is the municipal watershed that directly supplies water to the June Lake Public Utility District. The fuels reduction treatment activities will include tree thinning and pruning to reduce stand density, shrub cutting, wood hauling, slash chipping, piling and burning. A variety of techniques and equipment will be used to implement the fuels reduction work while also protecting the sensitive hydrologic features of the area and natural habitats. This project will reduce the risk of wildfire, improve forest health, protect important natural resources and habitat and preserve and enhance the Grant Lake-Rush Creek Watershed resulting in improved water quality.
Total Requested Amount	327,500.00
Other Fund Proposed	44,500.00
Total Project Cost	372,000.00
Project Category	Site Improvement/Restoration
Project Area/Size	June Lake Loop 89 acres
Project Area Type	Acres
Have you submitted to SNC this fiscal year?	No
Is this application related to other SNC funding?	No

Project Results
Resource protection

Project Purpose	Project Purpose Percent
Water Quality	

County
Mono

Sub Region
East

PROJECT CONTACT INFORMATION

Name	Mr. Ed Armenta,
Title	Forest Supervisor
Organization	USDA Forest Service, Inyo National Forest, Bishop
Primary Address	351 Pacu Lane, Suite 200, , , Bishop, CA, 93514
Primary Phone/Fax	760-873-2400 **Ext.**
Primary Email	earmenta@fs.fed.us

PROJECT LOCATION INFORMATION

Project Location

Address:	June Lake Loop, , , June Lake, CA, 93529 United States
Water Agency:	June Lake PUD
Latitude:	37.76281
Longitude:	-119.1139
Congressional District:	n/a
Senate:	n/a
Assembly:	n/a
Within City Limits:	No
City Name:	

ADDITIONAL INFORMATION

Grant Application Type

Grant Application Type:
Category One Site Improvement

PROJECT OTHER CONTACTS INFORMATION

Other Grant Project Contacts

Name:	Mr. Dale Johnson,
Project Role:	Day-to-Day Responsibility
Phone:	7608725055
Phone Ext:	
E-mail:	dfjohnso@blm.gov

UPLOADS

The following pages contain the following uploads provided by the applicant:

Upload Name
Completed Application Checklist
Table of Contents
Full Application Form
Authorization to Apply or Resolution
Narrative Descriptions
Detailed Budget Form
CEQA Documentation
NEPA Documentation
Letters of Support
Long Term Management Plan
Project Location Map
Parcel Map Showing County Assessors Parcel Number
Topographic Map
Photos of the Project Site

Land Tenure- Only for Site Improvement Projects
Site Plan - Only Site Improv. or Restoration Proj.
Leases or Agreements

To preserve the integrity of the uploaded document, headers, footers and page numbers have not been added by the system.

Appendix B1
Full Application Checklist

Project Name: ***June Loop Fuels Reduction Project***

Applicant: ***USDA – Forest Service, Inyo National Forest***

Please mark each box: check if item is included in the application; mark "N/A" if not applicable to the project. "N/A" identifications must be explained in the application. Please consult with SNC staff prior to submission if you have any questions about the applicability to your project of any items on the checklist. All applications must include a CD including an electronic file of each checklist item, if applicable. The naming convention for each electronic file is listed after each item on the checklist. (Electronic File Name = EFN: "naming convention". file extension choices)

Submission requirements for all Category One and Category Two Grant Applications

1. ☒ Completed Application Checklist *(EFN: Checklist.doc,.docx,.rtf, or .pdf)*

2. ☒ Table of Contents *(EFN: TOC.doc,.docx,.rtf, or .pdf)*

3. ☒ Full Application Project Information Form *(EFN: SIform.doc, .docx, .rtf, or .pdf)*

4. ☒ Authorization to Apply or Resolution *(EFN: authorization.doc, .docx, .rtf, or .pdf)*

5. ☒ Narrative Descriptions - Submit a single document that includes each of the following narrative descriptions *(EFN: Narrative.doc, .docx, .rtf)*
   a. ☒ Detailed Project Description (5,000 character maximum)
      - ☒ Project Description including Goals/Results, Scope of Work, Location, Purpose, etc.
      - ☒ Project Summary
      - ☒ Environmental Setting
   b. ☒ Workplan and Schedule (1,000 character maximum)
   c. ☒ Restrictions, Technical/Environmental Documents and Agreements(1,000 character maximum)
   d. ☒ Organizational Capacity(1,000 character maximum)
   e. ☒ Cooperation and Community Support (1,000 character maximum)
   f. ☒ Long Term Management and Sustainability (1,000 character maximum)
   g. ☒ Performance Measures (1,000 character maximum)

6. Supplemental and Supporting documents
   a. ☒ Detailed Budget Form (EFN: Budget.xls, .xlsx)
   b. Restrictions, Technical/Environmental Documents and Agreements, as applicable
      - ☒ Restrictions / Agreements *(EFN: RestAgree.pdf)*
      - ☒ Regulatory Requirements / Permits *(EFN: RegPermit.pdf)*

- ☒ California Environmental Quality Act (CEQA) documentation *(EFN: CEQA.pdf)*
- ☒ National Environmental Policy Act (NEPA) documentation *(EFN: NEPA.pdf)*

c. Cooperation and Community Support
- ☒ Letters of Support *(EFN: LOS.pdf)*

d. Long-Term Management and Sustainability
- ☒ Long-Term Management Plan *(EFN: LTMP.pdf)*

e. Maps and Photos
- ☒ Project Location Map *(EFN: LocMap.pdf)*
- ☒ Parcel Map showing County Assessor's Parcel Number(s) *(EFN: ParcelMap.pdf)*
- ☒ Topographic Map *(EFN: Topo.pdf)*
- ☒ Photos of the Project Site *(10 maximum) (EFN: Photo.jpg, .gif)*

f. Additional submission requirements <u>for Conservation Easement Acquisition applications only</u>
- ☐ Acquisition Schedule *(EFN: acqSched.doc,.docx,.rtf,.pdf)*
- ☐ Willing Seller Letter *(EFN: WillSell.pdf)*
- ☐ Real Estate Appraisal *(EFN: Appraisal.pdf)*
- ☐ Conservation Easement Language *(EFN: CE.pdf)*

g. Additional submission requirements <u>for Site Improvement / Restoration Project applications only</u>
- ☒ Land Tenure Documents – attach only if documentation was not included with Pre-application *(EFN: Tenure.pdf)*
- ☒ Site Plan *(EFN: SitePlan.pdf)*
- ☒ Leases or Agreements *(EFN: LeaseAgmnt.pdf)*

I certify that the information contained in the Application, including required attachments, is accurate.

Signed *(Authorized Representative)* Date 1/23/13

Edward E. Armenta
Forest Supervisor
Name and Title *(print or type)*

Table of Contents

SIERRA NEVADA CONSERVANCY
PROPOSITION 84 GRANT APPLICATION FORM
CATEGORY ONE GRANTS

Rev. January 2010

Complete all applicable items on both pages of form.

1. PROJECT NAME
June Loop Fuels Reduction Project

2. REFERENCE NUMBER

3. APPLICANT *(Agency name, address, and zip code)*
Inyo National Forest
351 Pacu Lane, Suite #100
Bishop, CA 93514

4. APPLICANT TYPE:
☐ Nonprofit Organization ☒ Government
☐ Tribal Organization

5. APPLICANT'S AUTHORIZED REPRESENTATIVE

Name and title – type or print	*Phone*	*Email Address*
☒Mr. **Edward E. Armenta, Forest Supervisor**	**760-873-2400**	**earmenta@fs.fed.us**
☐Ms.		

6. PERSON WITH DAY-TO-DAY RESPONSIBILITY FOR ADMINISTRATION OF THE GRANT
(If different from Authorized Representative)

Name and title – type or print	*Phone*	*Email Address*
☒Mr. **Dale Johnson, Program Manager**	**760-872-5055**	**dfjohnso@blm.gov**
☐**Ms.**		

7. PERSON WITH FISCAL MANAGEMENT RESPONSIBILITY FOR GRANT CONTRACT/INVOICING
(If different from Authorized Representative or Day to Day Administrator)

Name and title – type or print	*Phone*	*Email Address*
☐Mr. **Same as #6, above.**		
☐Ms.		

8. FUNDING INFORMATION

SNC Grant Request *(Must be $5,000 - $1,000,000)*	$ **327,500.00**
Other Funds	$ **44,500.00 (Forest Service In-kind)**
Total Project Cost	$ **372,000.00**

9. PROJECT CATEGORIES

☒ **Site Improvement (fill in all that apply)**
Project Area: **June Lake Loop**
Total Acres: **89 ac.**
SNC Portion (if different): **Same**
Total Miles (i.e. river or stream bank): **N/A**
SNC Portion (if different): **N/A**

9a. DELIVERABLES
(Select one primary deliverable)
☐ Restoration
☐ Enhancement
☒ Resource Protection
☐ Infrastructure Development / Improvement

☐ **Acquisition (fill in all that apply)**
Project Area: _____
Total Acres: _____
SNC Portion (if different): _____
Total Miles (i.e. river or stream bank): _____
SNC Portion (if different): _____

(Select one primary deliverable)
☐ Fee Title
☐ Easement or Other Landowner Agreement

10. PROJECT ADDRESS/LOCATION *(Include zip code)* **No mailing address. Zip code is 93529. Nearest cross streets are State Hwy. 158 (June Lake Loop) and Nevada St.**

11. LATITUDE AND LONGITUDE

Lat. = 37.76281, Long. = -119.113941

12. COUNTY	**13. CITY** *(Is project within city limits? If so, which one?)*
Mono	**Not within any city limits.**

14. NEAREST PUBLIC WATER AGENCY (OR AGENCIES) CONTACT INFORMATION:

Name: **June Lake PUD (Rich Ciauri, Gen. Manager)** *Phone Number:* **760-648-7778**
Email address: **pudgm@qnet.com**

Name: **Los Angeles Dept. of Water and Power** *Phone Number:* **760-873-0215**
Email address: **dale.schmidt@ladwp.com**

15. CEQA OR NEPA DOCUMENT TYPE (if applicable)

- ☐ Notice of Exemption
- ☐ Negative Declaration
- ☒ Environmental Impact Report
- ☒ Finding of No Significant Impact
- ☐ Environmental Impact Statement
- ☐ Joint CEQA/NEPA Document

16. STATE CLEARINGHOUSE NUMBER

N/A – CEQA requirements met by tiering to CAL FIRE's programmatic Environmental Impact Report (EIR) for Proposed Administrative Regulations for the California Forest Improvement Program.

17. APPRAISAL

☐ Submittal with application ☐ Submittal by _____

I certify that the information contained in the Application, including required attachments, is accurate.

Signed *(Authorized Representative)* Date 1/23/12

Edward E. Armenta
Forest Supervisor
Name and Title *(print or type)*

United States Department of Agriculture | Forest Service | Inyo National Forest | 351 Pacu Lane, Suite 200
Bishop, CA 93514
(760) 873-2400
(760) 873-2538 TDD

File Code: 5150

Date: January 17, 2012

Mr. Jim Branham
Executive Officer
Sierra Nevada Conservancy
11521 Blocker Dr. Suite 205
Auburn, CA 95603

Dear Mr. Branham,

In November 2011, we received correspondence from the Sierra Nevada Conservancy that our Proposition 84 Healthy Forests grant pre-application for the June Loop Fuels Reduction Project had been accepted and we were eligible to apply using the full application. A requirement of the full application package is a letter from the agency's authorized representative supporting the grant application.

I am aware of the important work being planned as part of the June Loop Fuels Reduction Project, the terms of the full grant application, and the expectations on our agency should we receive funding for this work. I authorize and approve this application for funding support for the June Loop Fuels Reduction Project.

Thank you for your consideration of this grant application and for your support of past projects here in the eastern Sierra.

Sincerely,

Edward E. Armenta
Forest Supervisor
Inyo National Forest

Narrative Descriptions

a.) Detailed Project Description Narrative

Project Description

The purpose and overall goal of the June Loop Fuels Reduction Project is to decrease the likelihood of a large-scale, high-intensity wildland fire having catastrophic effects to the Grant Lake – Rush Creek 6th level sub-watershed, and the forests and human communities within this watershed. This municipal watershed directly supplies water to the June Lake Public Utility District. In addition, the City of Los Angeles diverts water for municipal use downstream of the project area.

This project is needed because over 70 years of fire exclusion has resulted in unnaturally dense forested stands, excessive amounts of standing dead and down tree material (much of it resulting from bark beetle infestations associated with overly dense forest conditions), and aspen stands heavily encroached by conifer tree species. In 2006, 35 acres of fuels reduction treatments were implemented in the June Lake Loop area. This project expands on that initial effort.

The specific scope of this grant application is for on-the-ground implementation on 89 acres of National Forest System lands of greatest importance to overall watershed health and resilience in the June Lake Loop area. These 89 acres are part of the much larger *June Loop Hazardous Fuels Reduction Project*, which was analyzed in an Environmental Assessment (EA) and approved by Inyo National Forest in July 2011 and authorizes fuels reduction treatments on 1,471 acres.

The 89 acres proposed here are in 4 units are known as A-01 (15 acres), DZ-07 (36 acres), DZ-08 (14 acres), and DZ-09 (24 acres). A map depicting these 4 units (and all others units authorized for treatment in the EA) can be found in *Item 6, Supplemental and Supporting Documents* section of this application.

Work to be completed using SNC grant funds would include:

Treatment Specifications for Units DZ-07, 08, and 09

Within units DZ-07, 08, and 09, treatments would create 100-foot defensible space zones around recreation facilities and other developments on USFS lands, and at the boundary with private properties where there are homes or other developments. These fuels reduction treatments are specifically intended to comply with requirements for wildfire defensible space specified in CA Code 4291.

The 100-foot defensible space treatments would include:

- Select removal of small diameter conifers (e.g. generally less than 16” dbh) where they are colonizing in the understory of aspen stands and from below the canopy of larger trees (e.g. ladder fuels).

- Prune tree limbs on residual conifer trees to a height of 8 to 12 feet.
- Select removal of shrubs by hand cutting.
- Disposal of slash, as well as existing dead and down material, by chipping or piling and burning.

For the portions of units DZ-07, 08, and 09 that are beyond the 100-foot defensible space treatment zones described above, fuels reduction treatments would include:

- Tree thinning to an average leave basal area of 80 to 120 sq. ft./acre, depending on site quality. Thinning would occur from below, removing suppressed, intermediate, and a sufficient number of co-dominant trees to achieve the desired leave basal area. Favor retaining shade intolerant conifer species, such as Jeffrey pine or large diameter Sierra juniper. Retain and/or recruit for stands dominated by larger, older Jeffrey pine trees by thinning excess trees to reduce inter-tree competition. Protect remaining old-growth Jeffrey pine by removing all trees under and within at least 15 feet of the drip line of the old-growth tree(s), which may act as a fuel ladder.
- Construction of 4 to 7 temporary bridges would be required for equipment to access and remove biomass from proposed treatment units DZ-07 & 08 because there are multiple braided stream channels in these units which create "islands" of dense, overstocked conifers. Temporary bridges would be constructed using down logs to span the stream, with decking material laid across the log spans. In addition, decking material may be used as the foundation for skid trails to operate equipment in areas of moist soil within these two units, to avoid soil rutting and compaction.

Treatment Specifications for Unit A-01

Conifer removal from the overstory of Unit A-01 would be conducted according to the following specifications:

- Cutting of all conifer <24" dbh within the aspen stand, and the stand perimeter up to 1) 1 ½ times the height of aspen trees in the stand, 2) distance required to prevent remaining, adjacent conifers from carrying a crown fire or 3) up to 100 feet (to conduct treatments or process treatment by-products), whichever is greater.
- Conifers 24" dbh or greater may be retained if they are not in a position to carry a crown fire into adjacent forested areas. Only single trees of this size would be retained (i.e. no clumps).
- All conifers greater than 30" dbh would be retained.
- Removal of conifers would be conducted using mechanical equipment where feasible. Cut trees would be removed from the treatment unit perimeter by operating equipment on the drier areas at the edge of the stand, and cabling or lifting logs out of the stand. In addition, decking material may be used as the foundation for skid trails to operate equipment in areas of moist soil within these two units, to avoid soil rutting and compaction. Equipment would access the stand via existing roads, and no new roads would be constructed.

- In aspen treatment unit A-01, equipment access would require construction of approximately 4 temporary bridges to cross braided segments of stream.

Implementation of the fuels reduction work is anticipated to be conducted by experienced contractors working under the oversight of Forest Service contract administration and inspection specialists.

Project Summary

The purpose and overall goal of the June Loop Fuels Reduction Project is to decrease the likelihood of a large-scale, high-intensity wildland fire having catastrophic effects to the Grant Lake – Rush Creek municipal watershed. This project is needed because over 70 years of fire exclusion has resulted in excessively dense forested stands. In 2006, 35 acres of fuels reduction treatments were implemented in the June Lake Loop area. This project expands on that initial effort.

The specific scope of this grant application is for on-the-ground implementation in 4 units (totalling 89 acres) of National Forest System lands of greatest importance to overall watershed health and resilience. These 89 acres are part of the much larger June Loop Hazardous Fuels Reduction Project to be implemented by the Forest Service beginning in 2012.

Fuels reduction treatment activites would include; tree thinning and pruning to reduce stand density and ladder fuels, shrub cutting, wood hauling, and slash chipping, and piling. Several temporary bridges would be constructed. A wide variety of techniques and equipment are anticipated to be used to implement this fuels reduction work while also protecting the sensitive hydrologic features of this area.

Environmental Setting

The June Lake Loop area is an important and highly popular outdoor recreation area in Mono County, offering outstanding recreational opportunities based on beneficial use of water, such as fishing, boating, and swimming. Pine, mixed-conifer, and aspen are the dominant forest types in the June Lake Loop area.

Development in the June Lake Loop area is concentrated on several large patches of private land, which are fully surrounded by National Forest System land. Hundreds of homes, cabins, resorts, and other businesses are situated on the private land. The Grant Lake - Rush Creek 6th level sub-watershed is a municipal watershed which directly supplies water to the June Lake Public Utility District. The City of Los Angeles also diverts water for municipal use downstream of the project area.

b.) Workplan and Schedule Narrative

The Inyo National Forest Vegetation Management staff has extensive experience in planning and implementing fuels reduction treatments such as those planned for these 4 units of the June Loop Fuels Reduction Project. Excellent results have been achieved on similar projects in the past by contracting with well-established firms specializing in forestry and fuels reduction work. Contracting would be the method utilized to accomplish the work proposed in this grant application, with the exception of prescribed fire operations associated with the burning of slash piles. These operations would be conducted by fully-qualified federal prescribed fire managers. Funding for the slash pile burning is not requested through this grant, but would be an in-kind contribution from the Inyo National Forest.

The major components of implementation include: unit mapping and layout, contract preparation and award, on-the-ground implementation (temporary bridge construction, tree and shrub cutting, tree pruning, yarding, slash chipping or piling, and site restoration) with concurrent contract inspection and administration, slash pile burning, and required accomplishment reporting to SNC. Table 1, below, displays these major components.

Table 1. Workplan and Timeline

Task	***Resources Needed***	***Timeline***
Unit Mapping, Layout and Baseline Hydrology and Vegetation Monitoring (units DZ-08 and DZ-09)	Inyo National Forest Vegetation Management Staff and Forest Hydrologist - 2 people	September – October 2012
Contract Preparation (units DZ-08 and DZ-09)	Inyo National Forest Vegetation Management Staff – 1 person	January – February 2013
6-month Progress Report #1	Inyo National Forest Vegetation Management Staff – Grant Manager	March 2013
Contract Award (units DZ-08 and DZ-09)	Inyo National Forest Vegetation Management Staff – Contracting Officer's Rep.	May – June 2013
6-month Progress Report #2	Inyo National Forest Vegetation Management Staff – Grant Manager	September 2013
On-the-Ground Contract Implementation in Units DZ-08 and DZ-09 (temporary bridge construction, tree and shrub cutting, tree pruning, yarding, slash chipping or piling, and site restoration)	Firm Specializing in Forestry and Fuels Reduction Work	September – October 2013

Contract Inspection, Administration, and Implementation Monitoring (units DZ-08 and DZ-09)	Inyo National Forest Vegetation Management Staff and Forest Hydrologist – 2 people	September - October 2013
Unit Mapping, Layout, and Baseline Hydrology and Vegetation Monitoring (units A-01 and DZ-07)	Inyo National Forest Vegetation Management Staff and Forest Hydrologist - 2 people	September – October 2013
Contract Preparation (units A-01 and DZ-07)	Inyo National Forest Vegetation Management Staff – 1 person	January – February 2014
6-month Progress Report #3	Inyo National Forest Vegetation Management Staff – Grant Manager	March 2014
Contract Award (units A-01 and DZ-07)	Inyo National Forest Vegetation Management Staff – Contracting Officer's Rep.	May – June 2014
6-month Progress Report #4	Inyo National Forest Vegetation Management Staff – Grant Manager	September 2014
On-the-Ground Contract Implementation in Units A-01 and DZ-07 (temporary bridge construction, tree and shrub cutting, tree pruning, yarding, slash chipping or piling, and site restoration)	Firm Specializing in Forestry and Fuels Reduction Work	September – October 2014
Contract Inspection, Administration, and Implementation Monitoring (units A-01 and DZ-07)	Inyo National Forest Vegetation Management Staff and Forest Hydrologist - 2 people	September - October 2014
Slash Pile Burning (units DZ-08 and DZ-09)	Inyo National Forest Fire Management Staff	November - December 2014
6-month Progress Report #5	Inyo National Forest Vegetation Management Staff – Grant Manager	March 2015
6-month Progress Report #6	Inyo National Forest Vegetation Management Staff – Grant Manager	September 2015
Slash Pile Burning (units A-01 and DZ-07)	Inyo National Forest Fire Management Staff	November - December 2015
Final Report	Inyo National Forest Vegetation Management Staff – Grant Manager	Before March 1, 2016

c.) Restrictions, Technical/Environmental Documents and Agreements Narrative

Restrictions/Agreements

None.

Regulatory Requirements/Permits

Lahontan Regional Water Quality Board

On July 13, 2011, a conference call was held between Inyo National Forest Vegetation Management Staff, the Inyo National Forest Hydrologist, and staff from the Lahontan Regional Water Quality Board. On this call, it was agreed that Timber Waiver Category 4 with "in lieu" practices would apply to the contracted portions of the June Loop Fuels Reduction Project and that the Inyo National Forest would make application for the waiver in early 2012. Lahontan only requests applications be at least 30 days in advance of on-the-ground implementation. Detailed, approved notes from this conference call are attached in *Item 6, Supplemental and Supporting Documents* section, below.

Great Basin Unified Air Pollution Contol District

Inyo National Forest prescribed fire managers work closely with the staff of the Great Basin Unified Air Pollution Control District (GBUAPCD) to ensure all prescibed fire activities comply with District regulations and requirements. GBUAPCD has approved dozens of Smoke Management Plan for prescribed burning by the Inyo National Forest in recent years. A Smoke Management Plan would be submitted to GBUAPCD for their review and approval prior to the first expected prescribed burning associated with this project, scheduled for November – December 2014.

CalTrans

Encroachment Permit # 0911-NTK-0012, issued November 23, 2010, and valid through December 31, 2013, allows for the temporary placement of approved highway signs along state highways advising motorists of prescribed fire activities which may be visible from the highways. A copy of the permit is included in *Item 6, Supplemental and Supporting Documents* section, below. Permit will be renewed at the appropriate time.

National Environmental Policy Act (NEPA)

The Decision Notice and Finding of No Significant Impact for the June Loop Hazardous Fuels Reduction Project was signed on August 15, 2011, by Jon C. Regelbrugge, District Ranger. All activities proposed in this grant application are authorized under this Decision Notice. A copy of the Decision Notice, Finding of No Significant Impact, and the Environmental Assessment (EA) are included in *Item 6, Supplemental and Supporting Documents* section, below.

California Environmental Quality Act (CEQA)

The San Bernardino Unit of CAL FIRE is the lead agency for CEQA compliance for this grant application. Working with CAL FIRE environmental planning specialists, Unit Forester Glenn Barley (RPF #2743) reviewed the *June Loop Hazardous Fuels Reduction Project EA, Decision Notice (DN), and Finding of No Significant Impact (FONSI)* and determined that CEQA requirements would be satisfied for this project by tiering to CAL FIRE's *Environmental Impact Report (EIR) for Proposed Administrative Regulations for the California Forest Improvement Program.* A copy Mr. Barley's cover letter, the California Forest Improvement Program (CFIP) Project Review Environmental Checklist, and other supporting documents are included in *Item 6, Supplemental and Supporting Documents* section, below.

d.) Organizational Capacity Narrative

Key Inyo National Forest personnel all have a minimum of 10 years experience planning, implementing, and administering complex fuels reduction projects. The following are the key personnel who would be responsible for the successful completion of this project:

- Dale Johnson – Vegetation Management Program Leader and Forest Silviculturist would fulfill the role of Grant Manager and primary point-of-contact for all inquiries related to this project should SNC choose to fund this project.
- Sue Farley – Project Leader for the June Loop Fuels Reduction Project environmental analysis would ensure that all regulatory requirements and permits are in order prior to implementation and assist the Grant Manager to ensure all implementation, monitoring, and reporting is in keeping with the project workplan and schedule.
- Andrew Weinhart – Forestry Technician and certified Contracting Officer's Representitive would be responsible for all on-the-ground work related to this project, including: unit mapping and layout, contract preparation, and contract inspection and administration.
- Erin Lutrick – Forest Hydrologist would prepare the Timber Waiver for regional water quality control board, assist in all unit layout, approve hydrologic feature protection measures, and conduct watershed resource monitoring.

The Inyo National Forest has successfully implemented many fuels reduction projects over the past decade, with the largest and most complex projects always relying heavily on contracting for services with well-established private firms to accomplish the work. Examples of these large, complex projects include: Mammoth Fuelbreak Project (2003), Portal Fuels Reduction Project (2010), and Crowley Communities Fuels Reduction Project (2011).

e.) Cooperation and Community Support Narrative

The Forest Service collaborated with the June Lake Citizens Advisory Council by meeting on September 7, 2010 and with the June Lake Fire Safe Council by meeting on October 5, 2010 while developing the proposal. A news release to announce a public collaborative meeting was published and posted locally at June Lake public bulletin boards on September 29, 2010. This public collaborative meeting was held in June Lake on October 14, 2010 and was attended by representatives from: June Lake Volunteer Fire Department; June Mountain Ski Area; June Lake Chamber of Commerce; Friends of the Inyo; the Silver Lake Recreation Cabin Tract; and members of the June Lake community.

The Forest Service initiated tribal consultation with five Tribes for the June Loop Hazardous Fuels Reduction Project through personal phone calls in the preliminary phase of project development (Kerwin 2011). This early consultation resulted in a field visit to the project area on November 8, 2010 with a representative from one of these Tribes. In addition, formal tribal consultation letters were mailed on December 16, 2010 to those five Tribes. A representative from another Tribe provided their thoughts and concerns regarding the proposed fuels reduction activities in response to the consultation letter.

The Forest Service sent a scoping letter on December 15, 2010 to interested parties, adjacent landowners, and other agencies requesting input. A news release regarding the project proposal and public scoping letter was sent to the Inyo Register and other local news outlets on December 17, 2010. The announcement was broadcast on the Sierra Wave radio station.

Because the Forest Service implemented 35 acres of similar fuels reduction work near June Lake in 2006, many of the normal concerns raised during public scoping were not brought forth during scoping for this project. The fuels reduction work done in 2006 generally received positive reviews and thus only nine comment letters or calls were received in response to this project proposal. The majority of comments expressed support for the project and recognized the need for proposed fuel reduction actions.

f.) Long-Term Management and Sustainability Narrative

The alternative selected in the Decision Notice for the *June Loop Hazardous Fuels Reduction Project Environmental Assessment* specifically recognizes the need for periodic maintenance for fuels reduction treatments to maintain their effectiveness over time. The Inyo National Forest has implemented numerous fuels reduction projects over the past decade and some of the individual treatments within these projects have already received one or more maintenance treatments. Maintenance for this project would be scheduled on an “as needed” basis, but is anticipated to only be necessary every 10 to 20 years.

Maintenance treatments for the 4 units proposed in this application would be funded

through the annual congressionally-authorized appropriations to the Forest Service for fuels reduction work. Maintenance treatments of these specific units are anticipated to be substantially less expensive than the initial treatment effort.

g.) Performance Measures Narrative

Number of People Reached

Information sharing and education during plan development (scoping) is summarized below. Prior to and during implementation, additional information will be provided via mailings and news releases to local media outlets.

- Over 700 property owners in the June Lake Loop area to potentially benefit from the project
- 350 letters mailed to residents and business owners closest to units planned for on-the-ground implementation
- Public field trip included representatives from the June Lake Chamber of Commerce, Fire Department, FireSafe Council, June Mountain Ski Area, and local environmental group
- Presentations at Fire Safe Council and Chamber of Commerce regularly scheduled meetings

Dollar Value of Resources Leveraged for the Sierra Nevada

Should the SNC decide to fund this proposal, the $327,500 grant would target forest and watershed health benefits on the 89 acres previously described. Funding for slash pile burning is an in-kind contribution from the Inyo National Forest, valued at $44,500. The remaining 1,382 acres of forested land scheduled for treatment in the June Loop Hazardous Fuels Reduction Project would be completed using the annual congressionally-appropriated funding to the Forest Service for fuels reduction work. The cost to complete treatments on the remaining 1,382 forested acres is estimated to be $1,255,806.

Number and Type of Jobs Created

The jobs created from this grant award would be exclusively in the private sector. This type of work is highly seasonal in nature and contractors typically hire large numbers of temporary workers during their busy summer and fall period of operations. This grant would generate 6 – 7 full-time equivalent forestry worker jobs and 1 full-time equivalent supervisory forestry worker job. All jobs would be temporary.

Number of New, Improved or Preserved Economic Activities

The June Lake Loop offers outstanding opportunities for fishing, hiking, horseback riding, boating, and during the winter months skiing at June Mountain Ski Area. Development in the June Lake Loop area is concentrated on several large patches of

private land, which are fully surrounded by National Forest System land. Hundreds of homes, cabins, resorts, and other businesses are situated on the private land.

As was also discussed earlier, the forested acres proposed for treatment here are within the Grant Lake - Rush Creek 6th level sub-watershed, a municipal watershed which directly supplies water for the June Lake Public Utility District. The City of Los Angeles also diverts water for municipal use downstream of the project area.

Natural disasters such as wildland fires can cause extreme economic hardship in recreation-oriented communities until there is some degree of recovery, often requiring a period of many years for full recovery. Implementation of the June Loop Fuels Reduction Project could potentially preserve a vast portion of these economic activities and their infrastructure, which could otherwise be at high-risk to loss to a large-scale, high-intensity wildland fire.

Linear Feet of Stream Bank Protected or Restored

Funding of this grant application would provide direct stream bank benefit to 9,504 feet (1.8 miles) of stream bank along Reversed Creek, Yost Creek, Fern Creek, and other un-named creeks. Stream bank benefit would be in the form of both protection and restoration. The project would reduce the liklihood of excessive runoff, erosion, and sedimentation associated with a high-intensity wildland fire, and restore riparian shrubs, forbs, and grasses by removing some of the heavy conifer encroachment.

Acres of Land Improved or Restored

Four units totaling 89 acres would directly be improved and restored by the funding of this grant application. Hazardous fuels would be significantly reduced, forest health and resilience would be improved through reduced inter-tree competition, and aspen and other native riparian vegetation would be enhanced via reduced conifer encroachment. CalFire Hazard Severity Zoning Map and the Mono County Community Wildfire Protection Plan indicate the communities in closest proximity to the project area are generally ranked as High to Very High, with one community ranked Moderate and one ranked Extreme.

Appendix B3

SIERRA NEVADA CONSERVANCY
PROPOSITION 84 - DETAILED BUDGET FORM

Project Name: June Loop Fuels Reduction

Applicant: USDA Forest Service, Inyo National Forest

SECTION ONE DIRECT COSTS	Year One 2012	Year Two 2013	Year Three 2014	Year Four 2015	Year Five 2016	Total
Unit Mapping and Layout	$1,900.00	$1,900.00				$3,800.00
Contract Prep and Award		$1,600.00	$1,600.00			$3,200.00
Contract Implementation		$125,100.00	$167,400.00			$292,500.00
Contract Inspection and Admin.		$2,600.00	$3,200.00			$5,800.00
						$0.00
						$0.00
						$0.00
DIRECT COSTS SUBTOTAL:	$1,900.00	$131,200.00	$172,200.00	$0.00	$0.00	$305,300.00

SECTION TWO INDIRECT COSTS	Year One 2012	Year Two 2013	Year Three 2014	Year Four 2015	Year Five 2016	Total
Monitoring	$800.00	$800.00	$800.00	$800.00		$3,200.00
Performance Measure Reporting	$600.00	$600.00	$600.00	$600.00	$600.00	$3,000.00
						$0.00
						$0.00
INDIRECT COSTS SUBTOTAL:	$1,400.00	$1,400.00	$1,400.00	$1,400.00	$600.00	$6,200.00
PROJECT TOTAL:	$3,300.00	$132,600.00	$173,600.00	$1,400.00	$600.00	$311,500.00

SECTION THREE Administrative Costs (Costs may n*ot to exceed 15% of total Project Cost*) :						Total
Organization operating/overhead	$3,200.00	$3,200.00	$3,200.00	$3,200.00	$3,200.00	$16,000.00
						$0.00
						$0.00
						$0.00
						$0.00
ADMINISTRATIVE TOTAL:	$3,200.00	$3,200.00	$3,200.00	$3,200.00	$3,200.00	$16,000.00
SNC TOTAL GRANT REQUEST:	$6,500.00	$135,800.00	$176,800.00	$4,600.00	$3,800.00	$327,500.00

SECTION FOUR OTHER PROJECT CONTRIBUTIONS	Year One 2012	Year Two 2013	Year Three 2014	Year Four 2015	Year Five 2016	Total
Forest Service In-Kind (Pile Burning)			$19,000.00	$25,500.00		$44,500.00
						$0.00
						$0.00
						$0.00
						$0.00
						$0.00
Total Other Contributions:	$0.00	$0.00	$19,000.00	$25,500.00	$0.00	$44,500.00

California Environmental Quality Act (CEQA)

Cover letter from CAL FIRE, California Forest Improvement Program (CFIP) Project Review Environmental Checklist, and other supporting documentation referenced in Section 5. C) of this application are attached below.

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Tim McClelland, San Bernardino Unit Chief
3800 N. Sierra Way
San Bernardino, CA 92405
Phone: (909) 881-6900
Fax: (909) 881-6969
Website: www.fire.ca.gov

January 20, 2012

Dale Johnson, Program Manager
USDA Forest Service, Inyo NF
351 Pacu Lane, Suite 200
Bishop, CA 93514

Dear Mr. Johnson,

The environmental planning staff of CAL FIRE – San Bernardino Unit has completed its review of the Inyo National Forest's *June Loop Hazardous Fuels Reduction Project Environmental Assessment, Finding of No Significant Impact (FONSI), and Decision Notice*. As the lead agency for California Environmental Quality Act (CEQA) compliance for your grant application to the Sierra Nevada Conservancy for funding support, we have determined that CEQA requirements would be satisfied for this project by tiering to CAL FIRE's *Environmental Impact Report (EIR) for Proposed Administrative Regulations for the California Forest Improvement Program.*

A copy of the California Forest Improvement Program (CFIP) Project Review Environmental Checklist and other associated documents are included for your review and use in supporting your grant application to the Sierra Nevada Conservancy. Here's hoping that your grant application will be successful and this important fuels reduction and watershed protection work will commence soon in the June Lake area of the eastern Sierra.

Sincerely,

Glenn Barley

Glenn Barley
Unit Forester

California Forest Improvement Program (CFIP)
Project Review
Environmental Checklist

Applicant's Name: Inyo National Forest, Mono District CFIP Project No.: N/A

The information contained in the Project Description, the Program Environmental Impact Report, the Management Plan (if applicable), contacts with Department of Fish and Game, Regional Water Quality Control Board, Department of Parks and Recreation, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the CFIP rules provide the basis for completing the checklist.

Check the appropriate effect and mitigation measures to be applied. Enter N/A where the effect is not applicable.

EFFECT	MITIGATION
Water Quality	
1. X Soil deposition in streams caused by accelerated erosion due to the use of heavy equipment to remove vegetation. NOTE: For the purpose of completing the checklist streams are defined and classified as watercourses as per the Forest Practice Rules.	1a. N/A Brush scalped off slopes will be windrowed along the contour and burned leaving effective berms of residual soil to impede surface water flow.
	1b. X No heavy equipment on excessively wet soils. (see 1d)
	1c. X As a minimum no heavy equipment operate within an equipment exclusion zone, providing a buffer strip.
	1d. X Other Aditional practices that will be used to protect from the deposition of soils into watercourses are identified in the Project Description and include but are not limited to: -Use of low ground pressure equipment. -Placement of slash or other material on soils exposed during operations. -Construction of temporary bridges across stream channels. -Only use equipment on slopes less than 30%. -Only use equipment on slopes averaging less than 20% where pumice soils are at the surface. -Skid trail pattern and placement will be identified prior to operations to minimize soil disturbance. -A watershed specialist will be consulted on the location and spacing of burn piles. -Chip material will not be deposited in areas where it may discharge into a watercourse. -All areas disturbed during operations will be stablized prior to winter season or predicted high flows. -Areas receiving detriminal soil compaction will be sub-soiled as determinded by a Forest Service watershed specialist. -Skid trails will be treated to discourage their use by off-road vehicles. - Heavy equipment may operate on excessively wet soils if equipment operates on slash mats, planks, decking or similar material to protect saturated soils.
2. X Landslides and slope failure due to heavy equipment operation on currently and potentially unstable lands. NOTE: See instructions for additional information.	2a. X No heavy equipment on current or potentially active slide area.
	2b. N/A Other
3. X Increased water temperatures due to removal of watercourse shading. NOTE: The watercourse protection measures for shade canopy retention as described in the Forest Practice Rules are to be used for completing the checklist.	3a. N/A Riparian vegetation will not be removed.
	3b. X Other vegetation will be left as necessary to maintain stream temperature.
	3c. X Other In this project, there is very little potential for increased water temperature. The project will thin small diameter conifers and/or dead aspen in the stream zone, maintaining canopy shading. Further, the treatment units are relatively small, and do not contain a long stream segment. Removal of some smaller diameter trees along a few hundred feet of stream channel should not affect water temperature or any associated beneficial uses.
4. X Increased turbidity and sediment load in streams from clearing stream channels. Note: See note for item 1.	4a. N/A Compliance with California Department of Fish and Game permit requirements.
	4b. X Use of manual methods to substitute for winch lines and heavy equipment.

	4c. N/A To reduce soil loss areas of bare soil greater than 500 square feet will be treated within the standard watercourse and lake protection zones as described in the Forest Practice Rules.
	4d. X Other All areas disturbed during operations will be stablized prior to winter season or predicted high flows.
5. x Deposition of slash or debris in streams.	5a. X All areas below the stream and lake transition line of Class I, II and III watercourses as described in the Forest Practice Rules will be kept free of slash and debris, except as intended for woody debris enhancement for fisheries and wildlife.
	5b. X Accidental deposits will be immediately removed. Removal will be consistent with the requirements found in California's Forest Practice Rules.
	5c. N/A Other
6. N/A Accidental off-target deposition of herbicides due to spills and aerial drift.	6a. N/A Compliance with Federal, State and local rules will minimize the chance of this effect. These rules also address spills.
	6b. N/A Other
7. X Effect on domestic water supplies from sediment deposits. NOTE: See instructions for additional information. Also the protection of domestic water supplies shall be consistent with the requirements found in California's Forest Practice rules.	7a. N/A A Special Treatment Area is established around domestic water supplies to protect them.
	7b. X Other With implementation of BMPs and design criteria, the Proposed Action would have only minor, local, short-term effects to water quality, hydrology, stream morphology and soil productivity. These effects would be of low intensity and short-term, and would not affect any of the streams' beneficial uses within the project area. The project area contains wetlands and riparian areas, and a small area would be within the 100-year floodplain of small perennial streams. However, the project would not affect the hydrologic functioning of any wetlands and would not alter any flooding processes. All effects would be within Federal, State or local standards and would meet all applicable laws pertaining to water quality, hydrology, stream morphology and soil quality. Additionally because the project will be carried out on Federal land, the California Forest Practice rules do not apply, however comperable protections are included in the project as identified in the project description.
8. N/A Unusual circumstances or project site conditions (e.g. soil type, slope, size of project, soil moisture) which could result in surface erosion effects which are not adequately mitigated by the requirements in the Resource Protection Guidelines	8a. N/A Effects beyond the scope of the Program EIR and additional review required. NOTE: See instructions for additional information
	8b. NA Other
9. X Siltation of stream caused by accelerated erosion after vegetation removal.	9a N/A Effects beyond scope of Program EIR and additional review required.
	9b. X Other With implementation of BMPs and design criteria, the Proposed Action would have only minor, local, short-term effects to water quality, hydrology, stream morphology and soil productivity. All effects would be within Federal, State or local standards and would meet all applicable laws pertaining to water quality, hydrology, stream morphology and soil quality.
Wildlife	
10. X Reduction of wildlife forage and cover from site preparation or clean and release practices.	10a. X Retention of black oaks and other mast-producing plants will occur.
	10b. N/A Retention of 1-3 acre patches of brush cover to provide "edge effect."
	10c. N/A There will be limited brush removal from around the bases of trees.
	10d. N/A Substitute forage will be planted and/or browse plants will be rejuvenated.
	10e. N/A Piles of brush will be left for birds or small mammal use.
	10f. X Other The proposed project is a fuel reduction project. as a result aggressive treatment fo fuels will occure within 100 feet of private lands.

	structures, campgrounds and other facilities and infrastructure. Outside the 100 foot zone, the fuels treatmetn will become progressivly less aggressive and will incorperate treatmetns that encourage edge effect and cover. While cover will be reduced in most of the project area, edge effect will remain at the perimeter of the poject. Additionally, it is expected that the project will increase brose for deer and other herbivores.
Rare and Endangered Species	
11. X Impact to rare, endangered or sensitive species habitat or wildlife as part of vegetation manipulation. **NOTE:** See instructions for additional information.	11a. X The Department of Fish and Game's Natural Diversity Data Base and the California Native Plant Society registers were consulted for evidence of such occurrences in the project area.
	11b. N/A No species were identified.
	11c. X Species were identified, a special treatment area was designated and no forest improvement practice will be performed that will impact the species.
	11d. X Snags with visual evidence of use for nesting and roosting sites for rare and endangered species shall be protected.
	11e. X Other Additional species were reviewed for potential impacts. Mitigation measures are proveded for 4 species. Species reviewed and the mitigation measure are found in Appendix A attached.
Forest Insects and Diseases	
NOTE: See instructions for additional information.	
12. X Possible infestation of residual stands of pines with Ips and Dendroctonous beetles if slash from wet season pre-commercial thinning operation not adequately disposed.	12a. N/A The requirements described in the Forest Practice Rules Technical Rule Addendum Number 3 will be followed.
	12b. N/A Different species of conifers will be planted on the site to minimize the recurrence of the stand conditions that favored the infestation.
	12c. X Other Some material will be chipped or mowed (masticated). Conifer material which is hand piled for future burning will be small small enough to allow rapid drying of the branches. Bole material will be removed from site or made available to the public for firewood, thus removing it from the site.
13. X Infestation of pine stands with root rot pathogens after precommercial thinning.	13a. X Application of borax on thinned stumps will occur.
	13b. N/A Other
14. N/A The project is within the Zone of Infestation for pitch canker.	14a. N/A Infected or contaminated plant material will not be transported to areas that are free of the disease.
	14b. N/A No disease symptoms in project area.
	14c. N/A Tools used in cutting diseased trees will be cleaned with disinfectant before using them on uninfected trees.
	14d. N/A Other
Fire	
15. X Particulates in the air from burning brush and slash.	15a. X Compliance with Air Resource Board rules and local ordinances.

	15b. X Other See XXXX Green house gas emision evaluation.
16. X Slash build-up after precommercial thinning increases fire hazard.	16a. X Slash will be treated to at least the standards described in the Forest Practice Rules for the area.
	16b. X Other See project description for details on treatment of slash.
17. X Risk of fire escaping.	17a. X Compliance with all state and local laws and regulations.
	17b. X Other Burning will occur on Federal land requiring compiance with Federal law, US Forest Service policy as well as applicable state and local laws and regulations.
Archaeological, Historical and Cultural Resources	
18. X Potential significant disturbance of archaeological, historic, or cultural resources.	18a. X A current archaeological records check was conducted at the appropriate Information Center of the California Historical Resource Information System.
	18b. X Written notification was sent to local Native American groups and individuals, in the same manner as described in the Forest Practice Rules
	18c. N/A Written notification was sent to local Historical societies or similar organizations, requesting information about historical resources that may exist within the project.
	18d. X A professional archeologist or an archaeologically-trained resource professional conducted an archaeological survey.
	18e. X Archaeological, historic and cultural resource sites that exist within the project area were identified, evaluated, mapped, and recorded in accordance with professional archaeological standards.
	18f. X Appropriate protection measures were developed for known archaeological, historical or cultural resource sites. These protection measures were developed in consultation with a CDF archeologist.
	18g. X The archaeological investigation was documented on the CDF Project Review Report For Archaeological and Historical Resources Form, or an equivalent to it. The report was reviewed and approved by a CDF Archeologist for adequacy and concurrence of findings.
	18h. X Other See Appendix B
Other	
19. N/A Project may result in significant environmental effects other than those listed above.	19a. N/A Effects beyond scope of the Program EIR. Additional review will be required.
	19b. N/A Other

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Certification

I certify that I have reviewed the pertinent information and inspected the proposed CFIP project area. After evaluating the proposed project and incorporating mitigation measures, I have determined:

- Mitigation has been incorporated into this project as necessary to avoid, reduce, or minimize impacts to less-than-significant level.
- Implementing this project will result in no significant environmental impacts and no new California Environmental Quality Act documentation is required.

Applicant or Applicant's Representative Certification

Signature: Dale F. Johnson

Title: Program Manager & Forest Silviculturist - Inyo NF

Date: 1-20-2012

California RPF License Number: NOT REQ'D for FEDERAL LANDS

California Department of Forestry & Fire Protection Certification

Signature: Glen Barry

Title: Unit Forester, San Bernardino Unit, CAL FIRE

Date: 1/20/12

California RPF License Number: 2743

Appendix A

Species	Status	Habitat	Habitat located within the project area
Willow flycatcher ***Empidonaz traillii***	State Endangered	Meadows greater than 15 acres in size with water present and a woody riparian shrub component greater than 6.5 feet in height. Areas mapped as Occupied, Emphasis, or Suitable habitat in the Forest-wide GIS layer (USDA Forest Service 2001).	The project area does not contain large meadow systems with a willow component suitable for willow flycatcher and the project area is not located near an occupied or emphasis willow flycatcher area.
Great gray owl ***Strix nebulosa***	State Endangered	Mixed coniferous forest where such forests occur in combination with large meadows or other vegetated openings. 2,400 to 9,000 feet	There are no large meadows surrounded by mixed conifer forest within the project area.
Sierra Nevada yellow-legged frog ***Rana sierrae***	State Candidate Endangered	This frogs' native range included high mountain lakes of the Sierra Nevada Range, including down to the project area. Most of the historic populations have become locally extinct due to several factors, including fish introduction and disease.	Although there may have been habitat for this frog in the past, the introduction of fish into the lakes have eliminated the possibility of this frog occurring as a breeding population within the project area. No frogs have been observed in the June Lake Loop area.
Owens tui chub ***Gila bicolor snyderi***	Federal Endangered	Historically occurred throughout the Owens Valley in slow backwater areas of the Owens River and in small, spring-fed streams within the Owens Valley	The project area occurs outside the native range for this fish, therefore Ownes Tui Chub are not found within the project area.
Sierra Nevada bighorn sheep ***Ovis canadensis sierrae***	Federal Endangered	Alpine and subalpine zones, with open slopes where the land is rocky, sparsely vegetated and characterized by steep slopes and canyons (USDA Forest Service 2001). 4,000 to 12,000 feet.	There is no potential SNBS habitat within the project area. The project area does not occur within occupied SNBS habitat and is not identified within a Recovery Herd Unit (USDI 2007).
Swainson's hawk ***Buteo swainsoni***	State Threatened	Large valleys with open grasslands with scattered trees or shrubs for nesting and adequate prey base (USDA Forest Service 1998).	The project area is not located within large valleys or open grasslands, which offer suitable habitat for Swainson's hawk.
Wolverine ***Gulo gulo***	State Threatened	Red fir, mixed conifer, lodgepole, subalpine conifer, alpine dwarf-shrub, barren and wet meadows, montane chaparral, and Jeffrey pine. 6,400 to 10,800 feet	The project area does not include potential habitat for wolverine due to the lack of conifer forests and wet meadows suitable for wolverine.
Sierra Nevada red fox ***Vulpes vulpes necator***	State Threatened	Forested areas (red fir and lodgepole pine) and subalpine and alpine habitats in proximity to meadows, riparian areas, and brush fields above 5,000 feet elevation (USDA Forest Service 2001).	Suitable habitat for Sierra Nevada red fox does not occur within the project area due to the lack of high alpine forested habitats near meadows.
Lahontan cutthroat trout ***Oncorhynchus clarki henshawi***	Federal Threatened	Lahontan cutthroat trout were placed in one stream within the Inyo NF boundaries as a refuge population.	Lahontan cutthroat trout do not occur within the June Lake Loop Fuels Project area.
Paiute cutthroat trout ***Oncorhynchus clarki seleniris***	Federal Threatened	Paiute cutthroat trout were placed in two streams within Inyo NF boundaries as refuge populations.	Paiute cutthroat trout do not occur within the June Lake Loop Fuels Project area.

northern goshawk ***Accipiter gentilis***	CDF Sensitive DFG Sensitive	Northern Goshawks nest in mature and old-growth forest stands including a broad range of conifer and conifer-hardwood types. including Pacific Ponderosa. Jeffrey. and Lodgepole pine. mixed conifer. White and California Red fir. Douglas-fir. as well as mature Quaking Aspen stands within aspen–shrub steppe vegetation east of the Cascade-Sierra axis. Nest stands have consistently larger trees. greater canopy cover. and relatively more open understory than stands lacking nests.	The project has the potential to impact this species. **See the detailed discussion for mitigation below.**
Yosemite toad ***Anaxyrus canorus***	USFS Sensitive	Sierra Nevada endemic species occurring in wet montane meadows in elevations ranging from 6.435 to 11.385 feet from the Blue Lakes region north of Ebbetts Pass in Alpine County south to Kaiser Pass in the Evolution Lake/Darwin Canyon region of Fresno County (USDA Forest Service 2001).	The project area occurs outside the known range for Yosemite toad. The project is located in the foothills of the Sierra Nevada. but does not include wet montane meadows suitable for YT.
Pallid bat ***Antrozous pallidus***	USFS Sensitive	Rock crevices. tree hollows (particularly hardwoods). mines. caves and abandoned buildings below 6.000 feet elevation (Philpott 1997; USDA Forest Service 2001). Although the species has been found up to 10.000 feet elevation in the Sierra Nevada (Sherwin pers. com. 1998). it is considered scarce and localized at this elevation (Barbour and Davis 1969).	The project area does not contain any rock crevices. mines. caves. or abandoned buildings which offer suitable habitat for pallid bat. The project area is located at least 1000 feet above the known range of pallid bat.
Sierra Nevada mountain beaver ***Aplodontia rufa californica***	DFG Species of Special Concern	This mammal is common in areas with lush vegetation and succulent plants. It can survive in up to 7000 ft. elevations. but prefer altitudes with moderate (as opposed to alpine) climates. (Parker and Wood 1990) These animals can not acclimate to large variations in temperature due to their inability to physiologically regulate body temperature.	Given the high elevation and the alpine climate. the project area is not likely to be suitable habitat for the beaver. In addition. any active beaver activity as evidenced by dam or den structures will be avoided.
Inyo Mountain Slender Salamander ***Batrachoseps campi***	USFS Sensitive	This species occurs in moist drainages within the White and Inyo mountains.	The project area is outside the known range for the Inyo Mountain slender salamander.
Kern Plateau Slender Salamander ***Batrachoseps robustus***	USFS Sensitive	This species occurs within moist drainages within and along the margins of the Kern Plateau	The project area is outside the known range for the Kern Plateau slender salamander.
pygmy rabbit ***Brachylagus idahoensis***	DFG Species of Special Concern	Pygmy rabbits are generally limited to areas on deep soils with tall. dense sagebrush which they use for cover and food. Individual sagebrush plants in areas inhabited by pygmy rabbits are often 6 feet (1.8 m) or more in height.	Burrows up to 3.3 feet deep. Stays within 100-300 feet of its burrow. The project area lacks dense sage stands consistent with its preferred habitat.
Owens sucker ***Catostomus fumeiventris***	DFG Species of Special Concern	Owens sucker is found in the lower Owens River	The lower Owens River is outside the project area.

sage-grouse ***Centrocerus urophasianus***	USFWS Candidate	The birds are found at elevations ranging from 4,000. to over 9,000 feet and are dependent on sagebrush for cover and food.	**See detailed discussion of mitigation measures below.**
northern harrier ***Circus cyaneus***	DFG Species of Special Concern	Northern Harriers breed and forage in a variety of open (treeless) habitats that provide adequate vegetative cover, an abundance of suitable prey, and scattered hunting, plucking, and lookout perches such as shrubs or fence posts.	Open treeless habitat will be retained and enhanced in the course of the project. Sufficient vegetative cover will remain for prey.
Western yellow-billed cuckoo ***Coccyzus americanus***	USFS Sensitive	Deciduous riparian thickets or forests with dense, low-level or understory foliage up to 4,600 feet in elevation within the Owens Valley (USDA Forest Service 2001). Willow appears to be an important habitat component (Ibid.).	The project area is located outside of the known range of Western yellow-billed cuckoo and does not contain dense riparian thickets or forests which would offer suitable habitat for yellow-billed cuckoo.
Townsend's big-eared bat ***Corynorhinus townsendii***	USFS Sensitive	Juniper/pine and mixed coniferous forests are commonly used. Roosting occurs in caves, mine shafts, abandoned buildings and rocky outcrops during the winter. Hibernation sites are cold, but not below freezing. Hibernation occurs from October to April. 0 to 10,000 feet	There are no suitable roosting or hibernating areas within the project area due to the lack of caves, mine shafts, abandoned buildings and rocky outcrops.
yellow warbler ***Dendroica petechia brewsteri***	DFG Species of Special Concern	Yellow Warblers generally occupy riparian vegetation in close proximity to water along streams and in wet meadows. East of the Sierra crest, the combined effect of elevation, percent riparian graminoid cover, and riparian corridor width was positively correlated with Yellow Warbler occurrence.	Sufficient riparian vegetation will remain following completion of the project. Additionally, opening the aspen stands will allow for a higher percentage of graminoid cover.
Panamint alligator lizard ***Elgaria panamintina***	USFS Sensitive	Riparian areas in drier habitat types: rocky canyon bottoms near streams and springs, with creosote bush, sagebrush, and at the lower edge of the pinyon-juniper zone (Mahrdt and Beaman unknown date). Also found in dense vegetation near damp soil, and also in rock talus outside of riparian areas (Ibid.). 2,500 to 7,500 feet	The project area is not located within a rocky canyon bottom within the creosote or desert scrub vegetation zone.
spotted bat ***Euderma maculatum***	DFG Species of Special Concern	Spotted bats roosts may be found in cliffs and caves as well as forested and shrub environments. Forage habitat is typically wet meadows where insect populations prosper.	No cliff or cave habitat will be disturbed by the proposed project. Forested environments will be thinned to a stocking more consistent with historic stocking and wet meadows will be enhanced by reduction of vegetation drawing water from streams, wet areas and the water table.
western mastiff bat ***Eumops perotis californica***	DFG Species of Special Concern	Can be found roosting in caves, cliffs, trees and tunnels. Forage habitat is conifer and deciduous forests, grasslands, chaparral and desert scrub.	No cliff or cave habitat will be disturbed by the proposed project. Forested environments will be thinned to a stocking more consistent with historic stocking and areas of shrub habitat will remain untouched outside of the project area.
prairie falcon ***Falco mexicanus***	DFG Watch List	Nesting habitat is found primarily on cliffs and ledges. The falcon forages in open grasslands, desert scrub and agricultural lands. Prairie falcons often dive from perch trees to pursue prey.	No cliff or ledges will be disturbed in the course of the project. Mid and understory thinning will open the project area and perhaps create additional forage lands. Snags will be retained in the project area for potential perch trees.

Bald Eagle ***Haliaeetus leucocephalus***	Federal Recovered	Bald eagles generally nest near coastlines, rivers, and large lakes where there is an adequate food supply. They nest in mature or old-growth trees, snags (dead trees), cliffs, and rock promontories. Recently, and with increasing frequency, bald eagles are nesting on artificial structures such as power poles and communication towers.	**See detailed discussion of mitigation measures below.**
Mount Lyell salamander ***Hydromantes platycephalus***	DFG Species of Special Concern	Almost always associated with massive rock areas in mixed-conifer, red fir, lodgepole, and subalpine habitat types. Such areas must include a water source. North and east slopes, often at the base of cliffs or rockpiles, appear to be favored. Preferred rocky areas are often over decomposed granite soils, which are moistened by seeps or melting snow.	No large rock formations are found in the project area.
California gull ***Larus californicus***	DFG Watch List	A fairly common nester at alkali and freshwater lacustrine habitats east of the Sierra Nevada. California's nesting population is scattered across the northeastern plateau region and at Mono Lake.	Negit Island in Mono Lake is the preferred habitat for this gull and is 12 miles north of the project area. No islands favored for nesting are located in the project area.
Western red bat ***Lasirurs blossevillii***	USFS Sensitive	Riparian and deciduous wooded habitats below 3,000 feet elevation (USDA Forest Service 1998).	The project area is located outside the known elevation range for Western red bat.
western white-tailed jackrabbit ***Lepus townsendii townsendii***	DFG Species of Special Concern	Preferred habitats are sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland. Also uses low sagebrush, wet meadow, and early successional stages of various conifer habitats. Prefers open areas with scattered shrubs.	Work will be conducted in primarily dense stands of the favored habitat for this species. The thinning proposed in the project may increase habitat for the hare and create additional edge for the jackrabbit to seek cover.
Sierra marten ***Martes americana sierrae***	USFS Sensitive	In western North America, plant communities inhabited by American marten tend to be largely coniferous forests. Know occurrences of the marten are generally located in the upper divide of the Sierra Nevada and habitat is generally above 8,500 feet in California.	The project area is located at approximately 7,400 feet approximately 1,000 feet lower than preferred habitat. Additionally, with one exception, know occurrences of the marten nearest the project area occur near the Sierra-Nevada crest. **See detailed discussion of habitat protection below.**
Pacific fisher ***Martes pennanti (pacifica)***	USFS Sensitive	Forest or woodland landscape mosaics that include late-successional conifer-dominated stands. 6,500 to 10,000 feet	The project area does not include potential fisher habitat due to the lack of suitable conifer forest.
long-eared myotis ***Myotis evotis***	BLM Sensitive	This species has been found in nearly all brush, woodland, and forest habitats, from sea level to at least 2700 m (9000 ft), but coniferous woodlands and forests seem to be preferred. This species roosts in buildings, crevices, spaces under bark, and snags. Caves are used primarily as night roosts. It forages on a variety of arthropods among trees, over water, and over shrubs.	Snags will be retained in the project area which may contain potential roosts. The project will open the lower and mid level canopy which should increase forage areas for the bat.
Yuma myotis ***Myotis yumanensis***	BLM Sensitive	Optimal habitats are open forests and woodlands with sources of water over which to feed. The Yuma myotis roosts in buildings, mines, caves, crevices and bridges.	The project will open the lower and mid level canopy which may increase forage areas for the bat.

California golden trout ***Oncorhynchus mykiss aguabonita***	USFS Sensitive	The California golden trout's range occurs within the South Fork of the Kern River and the Golden Trout Creek on the Kern Plateau.	The project area is outside the known range for the California golden trout.
osprey ***Pandion haliaetus***	CDF Sensitive DFG Watch List	Uses large trees, snags, and dead-topped trees in open forest habitats for cover and nesting. Requires open, clear waters for foraging. Uses rivers, lakes, reservoirs, bays, estuaries, and surf zones.	Nearest know occurrences are 13 miles to the north-northwest near Mono Lake. The proposed project will not impact clear lakes and streams and will retain snags for potential perches and nesting.
Owen's Valley springsnail ***Pyrgulopsis owensensis***	USFS Sensitive	Found along escarpments of White and Inyo mountains east side of Owens Valley. Habitat consists of small springbrooks in temperatures 50 – 74F.	No springs occur within the project area.
Wong's springsnail ***Pyrgulopsi wongi***	USFS Sensitive	Wong's springsnail has a distribution extending north of Mono Lake and extending south of Owens Lake. This species inhabits clear water of undisturbed seeps and spring –fed streams of small to moderate size.	No springs occur within the project area.
Northern Leopard Frog ***Rana pipiens***	USFS Sensitive	The range of the northern leopard frog within the boundaries of the Inyo NF include the north end of the White Mountains.	The project area is outside the known range for the northern leopard frog.
Mount Lyell shrew ***Sorexlyelli***	DFG Species of Special Concern	Little is know about this species but is believed to be found at upper elevations of the Sierra Nevada. It was originally identified at high elevations near My. Lyelli east of the project area. It is believed to be located at moist sites next to a water source.	Based on the limited information available, it is believed that the proposed project is located at an elevation below the species proffered habitat elevation.
Brewer's sparrow ***Spizella breweri***	USFWS Conservation Concern	In summer, often finds cover in sagebrush in extensive stands with moderate canopy unbroken by trees, usually 0.5-1.3 m (1.5-4.0 ft) in height. The sparrow also breeds and nest in this same habitat.	The project area is composed primarily of conifer or deciduous forest types with limited sage understory. More extensive stands of unbroken sage are located outside the project area.
California spotted owl ***Strix occidentalis occidentalis***	USFS Sensitive	Found in five vegetation types in the Sierra Nevada: foothill riparian/hardwood, ponderosa pine/hardwood, mixed-conifer forest, red fire forest, and the east side pine forest. Stands have at least 40 percent canopy cover and higher than average downed woody material and snags. 7,700 to 10,000 feet	The project area does not contain suitable habitat for California spotted owl due to the lack of suitable conifer species with high canopy cover.
yellow-headed blackbird ***Xanthacephalus xanthacephalus***	DFG Species of Special Concern	Nests in fresh emergent wetland with dense vegetation and deep water, often along borders of lakes or ponds. Forages in emergent wetland and moist, open areas, especially cropland and muddy shores of lacustrine habitat.	The project is not located adjacent to deep water such as ponds or lakes.

PLANTS			
Long Valley milk-vetch ***Astragalus johannis-howellii***	State Rare	Sandy areas. sagebrush shrubland. Elevation 6528 - 8096 feet.	Know occurrences of the species are located South and east of the project area. The project area is not characterized as a sagebrush shrubland.
Mono milk-vetch ***Astragalus monoensis***	State Rare	Pumice. gravelly or sandy soils: found in Great Basin scrub and upper montane coniferous forest	The project area was surveyed and Mono milk-vetch documented in the eastern portion of the project area. This population of Mono milk-vetch occurs outside of planned fuels treatment areas, and will therefore not be affected by the project activities.
Pinzl's rock-cress ***Boechera pinzliae***	USFS Sensitive	Found in alpine boulder and rock field and subalpine coniferous forest (scree or sandy) at elevations of 9.800-11.000.	This species is found at elevations well above the project elevation of 7.400 feet in habitat not found in the project.
Tiehm's rock-cress ***Boechera tiehmii***	USFS Sensitive	Found in alpine boulder and rock fields (granitic) at elevations between 9.750-11.750 feet.	This species is found at elevations well above the project elevation of 7.400 feet in habitat not found in the project.
scalloped moonwort ***Botrychium crenulatum***	USFS Sensitive	Found in bogs and fens. lower montane coniferous forest. meadows and seeps. marshes and swamps (freshwater). upper montane coniferous forest at elevations between 4.000 and 10.750 feet.	Know occurrences of scalloped moonwort in the Mono County area are associated with upper montane habitat near the crest of the Sierra-Nevada and White Mountain crests. Additionally. there are not bogs. fens. marshes or swamps in the project area. The project area was surveyed and moonwort was not found.
common moonwort ***Botrychium lunaria***	USFS Sensitive	Found in meadows and seeps. subalpine coniferous forest. and upper montane coniferous forest at elevations between 6.500 and 11.250 feet	The project area is a mixed conifer or mixed conifer and deciduous forest rather than upper montane or subalpine forest type. Nearest know occurrence is 13 miles north of the project area. The project area was surveyed and moonwort was not found.
Bolander's bruchia ***Bruchia bolanderi***	USFS Sensitive	Found in damp soil. lower montane coniferous forest. meadows and seeps. and upper montane coniferous forest at elevations between 5.500 and 9.250 feet.	While habitat may be suitable there are no know occurrences in Mono County.
Tioga Pass sedge ***Carex tiogana***	USFS Sensitive	Found in meadows and seeps (mesic. lake margins) at elevations between 10.200 and 10.800 feet.	The preferred habitat begins 2.800 feet above the project area.
Tahoe draba ***Draba asterophora var. asterophora***	USFS Sensitive	Found in alpine boulder and rock field. and subalpine coniferous forest at elevations between 8.200 and 11.500 feet.	The preferred habitat begins 800 feet above the project area. The project area does not contain the preferred habitat.
subalpine fireweed ***Epilobium howellii***	USFS Sensitive	Found in mesic meadows and seeps and subalpine coniferous forest between 6.600-10.200 feet.	While habitat may be suitable no subalpine fireweed was found within the project area during field surveys.
short-leaved hulsea ***Hulsea brevifolia***	USFS Sensitive	Found in granitic or volcanic. gravelly or sandy lower montane coniferous forest and upper montane coniferous forest between 4.900 and 10.500 feet.	The nearest known occurrence is located 9 miles south of the project area west of the Sierra-Nevada crest.

Mono Lake lupine ***Lupinus duranii***	USFS Sensitive	Found in volcanic pumice, gravelly Great Basin scrub, subalpine coniferous forest and upper montane coniferous forest between 6,600 and 9,800 feet.	The project area was surveyed and Mono Lake lupine documented in the eastern portion of the project area. This population of Mono Lake lupine occurs partially within one planned fuels treatment area where sagebrush prescribed burning will occur. Mono Lake lupine is known to respond favorably to fire disturbance, and will therefore not be adversely affected by the project activities.
Inyo phacelia ***Phacelia inyoensis***	USFS Sensitive	Found in Meadows and seeps (alkaline) between 3,000 and 10,500 feet	No alkaline meadows or seeps are present in the project area.

Northern Goshawk

Inyo National Forest direction for northern goshawks was modified in 2004 upon publication of the Record of Decision for the Sierra Nevada Forest Plan Amendment (USFS 2004). Current direction includes:

1. Northern goshawk protected activity centers (PACs) are delineated surrounding all known and newly discovered breeding territories detected on National Forest System lands. Northern goshawk PACs are designated based upon the latest documented nest site and location(s) of alternate nests. If the actual nest site is not located, the PAC is designated based on the location of territorial adult birds or recently fledged juvenile goshawks during the fledgling dependency period.
2. PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 200 acres of forested habitat in the largest contiguous patches possible, based on aerial photography. Where suitable nesting habitat occurs in small patches, PACs are defined as multiple blocks in the largest best available patches within 0.5 miles of one another. Best available forested stands for PACs have the following characteristics: (1) trees in the dominant and co-dominant crown classes average 24 inches dbh or greater; (2) in westside conifer and eastside mixed conifer forest types, stands have at least 70 percent tree canopy cover; and (3) in eastside pine forest types, stands have at least 60 percent tree canopy cover. Non-forest vegetation (such as brush and meadows) should not be counted as part of the 200 acres.
3. As additional nest location and habitat data become available, PAC boundaries are reviewed and adjusted as necessary to better include known and suspected nest stands and to encompass the best available 200 acres of forested habitat.
4. When activities are planned adjacent to non-national forest lands, available databases are checked for the presence of nearby northern goshawk activity centers on non-national forest lands. A 200-acre circular area, centered on the activity center, is delineated. Any part of the circular 200-acre area that lies on national forest lands is designated and managed as a northern goshawk PAC.
5. PACs are maintained regardless of northern goshawk occupancy status. PACs may be removed from the network after a stand-replacing event if the habitat has been rendered

unsuitable as a northern goshawk PAC and there are no opportunities for re-mapping the PAC in proximity to the affected PAC.

6. Mitigate impacts where there is documented evidence of disturbance to the nest site from existing recreation, off highway vehicle route, trail and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb nest sites.

Bald Eagle

The bald eagle was listed by the USDI Fish and Wildlife Service as a federally endangered species in 1978. On July 12, 1995, this species was reclassified to Threatened status in the lower 48 states. On August 9, 2007, the bald eagle was removed for the federal list of threatened and endangered species. Even though they are de-listed, bald eagles are still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. These Acts require some measures to continue to prevent "take" of bald eagles resulting from human disturbance.

Forest-wide standards and guidelines for bald eagle include:

1. Maintain the integrity of existing wintering areas. Do not establish new winter uses or recreation developments within one-quarter mile of such areas.
2. Maintain and enhance fish, waterfowl, and other prey-base populations within winter foraging areas where opportunities exist.

Sage-Grouse

Forest-wide standards and guidelines for sage-grouse are:

1. Maintain a shrub canopy cover of at least 20 percent on at least 30 percent of vegetation treatment areas within six miles of known strutting grounds (leks).
2. Allow no vegetative treatment in sage-grouse habitat that would have a significant negative impact on this species.
3. Recognize the sensitivity of sage-grouse leks during the period from March 1 and April 30. Resolve conflicts in favor of sage-grouse.
4. Cooperate with the California Department of Fish and Game in reintroduction efforts.

American marten

Forest-wide standards and guidelines for American marten are:

1. Marten den sites are 100-acre buffers consisting of the highest quality habitat in a compact arrangement surrounding the den site. CWHR types 6, 5D, 5M, 4D, and 4M in descending order of priority, based on availability, provide highest quality habitat for the marten.
2. Protect marten den site buffers from disturbance from vegetation treatments with a limited operating period from May 1 through July 31 as long as habitat remains suitable

or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

Appendix B
Archaeological, Historical and Cultural Resources

Archaeological inventory for Treatment Units DZ-7, DZ-8, DZ-9 and A-01 in the June Loop Fuel Reduction Project was contracted to professional archaeological consultants and completed between October, 2009 and July, 2010. This investigation included a record search incorporating a ½ mile buffer of the proposed project area. The final survey report was submitted to the Forest Service February, 2011; this document was utilized for the current CEQA review.

As part of the current CEQA review, an additional Do-It-Yourself record search was completed by CDF archaeologist at the Eastern Information Center housed and the University of California – Riverside on December 8, 2011.

Per Cal Fire's review procedure, notifications were sent to contacts listed on the November 1, 2011 Native American Contact List maintained by Cal Fire's Archaeology Program.

Site protection measures established for known sites within the project area were developed in conjunction with both a Cal Fire Archaeologist and the Federal Agency Archeologist; these measures also include Cal Fire's procedures for post-review discovery of cultural materials and human remains.

June Loop Hazardous Fuels Reduction
Green House Gas Evaluation
1/20/12

Green House Gas (GHG) emissions were calculated using the First Order Fire Effects Model (FOFEM) and conversions factors based on estimated fossil fuel usage during the project. FOFEM was used to calculate emissions of fuel reduction by burning using three vegetation types. Acreage for each vegetation type was determined and weighted accordingly. It was assumed that 30 percent of the total volume present in each vegetation type was consumed by burning and it was also assumed that 75 percent of the fuel reduction, across the project, was accomplished by burning and 25 percent accomplished by mechanical means.

It was determined that a total of 2,953 tons of CO^2 will be released during the course of the project. Given that the project, or the burning of material, will occur likely occur over a 60 day period for an average of 49.2 ton per day, the net CO^2 affect will be less than significant.

	Production Rate Acre/Day	Acres to Treat	# Days Equipment Operation	Gal/day Fuel Use	Total Fuel Use
Diesel					
Chipper	0.5	22.3	44.6	10	446
Heavy Truck	1	89.3	89.3	7	625.1
Skid steer	1	89.3	89.3	10	893
Total Diesel					**1964.1**
	Conversion Factor Diesel				10.15
	KG CO2e from Diesel				**19935.62**
Gasoline					
Pick-up	1	89.3	89.3	5	446.5
Chain Saw	0.5	89.3	178.6	1	178.6
Total Gas					**625.1**
	Conversion Factor Gasoline				8.81
	KG CO2e from Gasoline				5507.131
Total CO2e equipment Kilograms					25442.75
Total CO2e equipment Tons					**28**

Burning Emissions

	CO2e lbs/acre from FOFEM	CO2e ton/acre from FOFEM	Acres burned Veg Type	Total CO2e tons
Lodgepole	68656	34.328	72.3	2481.9144
Aspen	25005	12.5025	12	150.03
White Fir	117261	58.6305	5	293.1525
Total CO2e Emissions from Burning Tons				**2925**
Total CO2e Emissions Tons				**2953**

Project Description

June Loop Hazardous Fuels Reduction Project

INTRODUCTION

The June Loop Hazardous Fuels Reduction project has been proposed by the Mono Lake Ranger District of the Inyo National Forest. The project will be carried out on Federal lands in and around private lands in the June Loop area. While the project will be carried out on Federal land, the proposed funding source requires that the project be reviewed through the California Environmental Quality Act (CEQA). The Inyo National Forest (INF) has completed and has a signed Finding of No Significance (FONSI) through the National Environmental Protection Act (NEPA). As a result, much of the review for CEQA draws from the work previously completed for the FONSI.

The Mono Lake Ranger District, Inyo National Forest proposes hazardous fuels reduction treatments, in four treatment areas, on a total of 90 acres in the WUI urban core and defense zones within the area of June Lake Loop. The proposed action would strategically reduce hazardous fuels by removing brush and trees around communities and recreational sites in the June Lake Loop. Vegetation management actions would be focused on reducing the risk of crown fires by decreasing vegetation density to break up the horizontal continuity of fuels, and by removing "ladder" fuels to break up the vertical continuity of fuels. Ladder fuels are comprised of contiguous vertical layers of vegetation which can carry small surface fires into the tops of trees in the forest, like climbing the rungs on a ladder, and with hazard of creating a large crown fire.

PROJECT DESCRIPTION

The four areas to be treated are designated DZ-07, DZ-08, DZ-09 and A-01on the attached map (Figure 3). Treatments would create 100-foot defensible space zones around recreation facilities and other developments on USFS lands, and at the boundary with private properties where there are homes or other private developments. Urban core fuels reduction treatments are intended to comply with requirements for wildfire defensible space specified in CA Code 4291, which is commonly known as 100-foot defensible space (refer to "General Guidelines for Creating Defensible Space"; Cal Fire 2006).

Treatments in DZ-07, DZ-08, DZ-09 would include the following fuels reduction activities within portions of the treatment units:

- Select removal of small diameter conifers (e.g. generally less than 16" dbh) where they are colonizing in the understory of aspen stands; from below the canopy of larger trees (e.g. ladder fuels); and within the 100-foot defensible space zone around buildings.

- Prune tree limbs on residual conifer trees to a height of 8 to 12 feet, or no more than 1/3 of tree height for smaller trees, whichever is less.
- Select removal of shrubs either by hand cutting around recreation cabin tract structures, resort facilities, and fire station structures; or by mowing spot treatment around recreation site facilities, such as fire pits, barbeque grills, picnic tables, restroom buildings, along the shoulder of access roads, and around perimeter of developed recreation sites.
- Disposal of slash, as well as dead and down material, by chipping or piling and burning (note: there would be no slash disposal within aspen stands or the 25-foot buffer in Water Body Buffer Zones along streams or lake shores, except in unit DZ-07).

Urban core fuel reduction treatments would be accomplished using chainsaws and hand labor to selectively remove small diameter conifers and shrubs, and to prune limbs on residual conifers. Shrub mowing would be accomplished using mechanical equipment, such as a Bobcat or All-Season Vehicle (ASV). Shrubs would be mowed and mulched in select locations around recreation site facilities. The width and shape of the mowing area would vary to work around specific features such as campground structures, large boulders, steeper slopes, riparian vegetation, or cultural resource sites. No mowing would occur in areas with riparian vegetation.

Defense zone treatments are proposed within portions of units DZ-07, DZ-08 and DZ-09 which extend beyond the Urban Core Defense zone fuels reduction work which tie into and extend beyond the 100-foot defensible space zone in the Urban Core. Defense zone treatments would include the following fuels reduction activities:

- Tree thinning within all or portions of proposed treatment units DZ-07, DZ-08, DZ-09 and A-01 tree thinning would be completed with the same silvicultural prescription as described for threat zone forest thinning and silviculture design criteria in subsequent sections of this document.
- Conifer removal from the overstory of the aspen stand in proposed treatment unit A-01; a description of the proposed actions for conifer removal from the overstory of aspen stands is described in detail in a subsequent section of this document.
- Construction of temporary bridges would be required for equipment to access and remove biomass from proposed treatment units A-01 and DZ-08, because there are multiple braided stream channels in these units which create "islands" of dense, overstocked conifers. Temporary bridges may also be needed in proposed treatment unit DZ-09, if access into this unit is not authorized from adjacent private lands. It is anticipated that four to seven temporary bridges would be needed to access this site. Temporary bridges would be constructed using down logs to span the stream, with decking material laid across the log spans. In addition, decking material may be used as the foundation for skid trails to operate equipment in areas of moist soil within these two units, to avoid soil rutting and compaction.

Forest Thinning Treatment

To create greater forest and landscape diversity, the following would be applied to all proposed tree thinning areas, unless otherwise noted:

- Protect remaining old-growth Jeffrey pine (usually at least 175 years old and exhibiting orange-red colored, thick, platy bark) by removing all trees under and within an area equal to 1.5 times the radius of the drip line of the old-growth tree(s), which may act as a fuel ladder.

Tree thinning would be accomplished using chainsaws and hand labor to cut trees. In most areas, removal of cut trees would be accomplished using mechanical equipment, such as an excavator or skid-steer. However, tree removal would be completed by hand labor in specific areas. These specific areas include sites with steeper slopes or areas with loose volcanic ash or pumice on the soil surface. Slash would be disposed of through chipping, piling and burning, and/or through sale of fuelwood.

Defense and Threat Zone Aspen Stand Treatment
Conifer removal from the overstory is proposed for treatment unit A-01 for 15 acres. The conifer removal from the overstory of aspen stands would be completed according to the following specifications:

- Cutting of all conifer <24" dbh within the aspen stand, and the stand perimeter up to 1) 1 ½ times the height of aspen trees in the stand, 2) distance required to prevent remaining, adjacent conifers from carrying a crown fire should the aspen stand burn in a wildfire or 3) up to 100 feet (to conduct treatments or process treatment by-products), whichever is greater.
- Conifers 24" dbh or greater may be retained if they are not in a position to carry a crown fire into adjacent forested areas should the aspen stand burn in a wildfire. Only single trees of this size would be retained (i.e. no clumps) unless those clumps are not in a position to carry a crown fire into adjacent forested areas should the aspen stand burn in a wildfire. These trees would be marked before treatment occurs.
- All conifers greater than 30" dbh would be retained, except those deemed a direct safety hazard for crews working in the stand.
- Dead aspen stems may be removed unless there is need to retain aspen snags for other resource values, such as structure for wildlife habitat or protection of cultural resources.
- Removal of conifers would be conducted using mechanical equipment where feasible. Cut trees would be removed from the treatment unit perimeter by operating equipment on the drier areas at the edge of the stand, and cabling or lifting logs out of the stand. Equipment would access the stand via existing roads, and no new roads would be constructed.
- In aspen treatment unit A-01, equipment access would require construction of temporary bridges to cross braided segments of stream which create 4 "islands" within the stand. It is anticipated that four temporary bridges would be needed.

DESIGN FEATURES

The following describes the design features that will be used to implement the Proposed Action Alternative:

Silviculture

- Trees would be thinned to an average leave basal area of 80 to 120 square feet per acre, depending on site quality. Poorer quality sites would be thinned to lower basal areas and better quality sites would be thinned to higher basal areas. There may be exceptions where the leave basal area is greater because of very large diameter trees which would not be removed. There may also be exceptions where the leave basal area is less because of natural openings in the forest or sites where dense pockets of smaller diameter white fir are removed.
- Thinning would occur from below, removing suppressed, intermediate, and a sufficient number of co-dominant trees to achieve the desired leave basal area. For all stands, the vast majority of trees to be thinned would be in the 10 to 20 inch diameter at breast height (dbh) range. Relatively few trees over 20 inches dbh are expected to be thinned, and no trees over 24 inches dbh would be cut as part of this prescription (except those deemed a direct safety hazard for crews, and in aspen stand treatment units A-01 as described in the previous section.
- Favor retaining shade intolerant conifer species, such as Jeffrey pine or large diameter Sierra juniper. Favor removing shade tolerant species, such as white fir. Where white fir has invaded Jeffrey pine stands due to disruption of the natural fire regime, Jeffrey pine is the preferred species for retention. Retain and/or recruit for stands dominated by larger, older Jeffrey pine trees by thinning excess trees to reduce inter-tree competition and achieve appropriate, site-specific stand densities. Protect remaining old-growth Jeffrey pine (usually at least 175 years old and exhibiting orangish colored, thick, platy bark) by removing all trees under and within at least 15 feet of the drip line of the old-growth tree(s), which may act as a fuel ladder.
- To minimize the possibility of an increase in the root disease *Heterobasidion annosus*, Jeffrey pine stumps greater than 14 inches in diameter would be treated with sodium tetraborate dechahydrate (commonly known as "borax") and sold as Sporax™. To reduce the risk of an increase in the root disease *H. annosus*, the following apply to all Jeffrey pine treatment areas unless otherwise noted:
    - ✓ All Jeffrey pine stumps greater than 14 inches in diameter would be treated with Sporax™ at a rate of one pound per 50 square feet of stump surface.
    - ✓ Application would follow all State and Federal rules and regulations as they apply to this pesticide application.
    - ✓ Sporax™ would be applied within 4 hours of stump creation. Sporax™ would not be applied on rainy days or within 200 feet of running water.

Wildlife

- No mechanical treatments would occur within northern goshawk Protected Activity Centers (PACs).
- For all proposed treatment areas, a goshawk nest survey would be conducted before any tree thinning/cutting operations commence. The survey would be

conducted by a Forest Service Wildlife Biologist. If tree thinning/cutting operations are not complete within 3 years of the initial survey, the stand would be re-surveyed.

- A Limited Operating Period (LOP) would be maintained prohibiting vegetation treatments within approximately ¼ mile of any northern goshawk nest site during the breeding season (February 15 through September 15), unless surveys confirm that northern goshawks are not nesting. If the nest stand within a PAC is unknown, the LOP would either be applied to a ¼ mile area surrounding the PAC, or surveys would be conducted to determine the nest stand location.
- No mechanical operations would occur during the primary nesting period for resident and neotropical migratory birds (May 15 thru July 30). This LOP may be adjusted during any year if a Forest Service Wildlife Biologist determines that the breeding chronology does not coincide with these dates.
- Where operationally feasible, attempt to retain up to three of the largest existing snags per acre. Where few snags exist, create up to 3 snags per acre throughout each treatment area. Snags would be created by topping and limbing, and/or girdling residual trees.
- *Snag retention and creation in WUI Defense and Threat Zone stands or portions of stands would be managed at a level so as to not pose a hazard to private residences or firefighters attempting to utilize these zones during fire suppression operations.*
- Where operationally feasible, attempt to retain up to three of the largest Class 1, 2, or 3 down logs per acre. Equipment used for mechanical slash piling or mowing/mulching would minimize disturbance to all classes of down logs exceeding 20 inches in diameter at the large end and 20 feet in overall length. Where few Class 1, 2, or 3 down logs exist, create up to 3 down logs per acre throughout each stand. Down logs would be created by either hand felling with a chainsaw, or by pushing them over with heavy equipment.
- *Down log retention and creation in WUI Defense and Threat Zone stands or portions of stands would be managed at a level so as to not pose a hazard to firefighters attempting to utilize these zones during fire suppression operations.*

Soils and Hydrology

- In Units A-01, DZ-07, DZ-08 and DZ-09 equipment may operate on wet ground by travelling on decking, slash or other material, as an "in lieu" practice for protection of soil and water resources (Lahontan Regional Water Quality Control Board 2011). The specific "in lieu" practices would be indentified by a Forest Service Natural Resource Professional to avoid adverse soil rutting and compaction, and to protect water quality from sedimentation.
- In Units DZ-07, DZ-08, DZ-09 and A-01 where the large amount of biomass and density of stream channels may require the use of higher ground pressure mechanized equipment within Waterbody Buffer Zones (WBZs), as an "in lieu" practice. In these cases, a Forest Service Natural Resource Professional would help design access points, skid trails, and operation guidelines for the "in lieu" practices to prevent adverse effects to water quality. This may require using

decking material, slash, or logs on skid trails to minimize soil impacts, and would include placing slash or other material on any skid trails or other areas that have reduced soil cover after equipment entry.

- Construction of temporary bridges would be required for equipment to access and remove biomass from proposed treatment Units DZ-07, DZ-08, DZ-09 and A-01, because there are multiple braided stream channels in these units which create "islands" of dense, overstocked conifers. These temporary bridges would be removed if a high flow event is predicted or before winter, in order to prevent obstruction of flow or diverting water out of the channel.
- Ground-based skidding equipment would be used only on slopes averaging less than 20% in areas with layers of pumice at the soil surface and less than 30% in other areas, unless otherwise determined by a Forest Service Watershed Specialist.
- Main skid trail pattern (spacing and placement) would be agreed upon prior to any harvesting operations. Where feasible, old skid trails and roads would be used.
- Trees > 3 inch dbh to be removed within the WBZs would be designated by written prescription, and all trees to be removed greater than 14 inches would be marked by a natural resource professional or supervised designee.
- For treatment of Jeffrey pine stumps to control root rot, Sporax™ would not be applied on rainy days or within 200 feet of running water.
- In Units DZ-07, DZ-08, DZ-09 and A-01 slash piles may be placed and burned within the 25-foot buffer in the WBZs, as an "in lieu" practice. Within this 25-foot buffer slash piles would not exceed 10-foot diameter and 5-foot height, slash would be piled with at least 20 feet spacing between piles (so no more than 10% of area within the 25-foot would be affected). A watershed specialist would be consulted for recommendations on locations for slash piles, to best prevent adverse effects to water quality, based on topography, distance to water, pile size, and pile density.
- Chipped material would not be discharged to waterbodies or deposited in locations were such material may discharge to a waterbody.
- Fuel would not be stored within WBZs unless it has proper containment and equipment would not be refueled within WBZs. Equipment and vehicles should have a spill containment kit and should be inspected for fluid leaks regularly.
- All areas disturbed by this project would be stabilized at the conclusion of operations or before the winter period. Work within the WBZ that causes ruts or other features that would have the potential to affect flow patterns would be repaired before the winter season or predicted high flows
- Any areas receiving detrimental soil compaction as a result of harvesting operations would be sub-soiled, as determined by a Forest Service watershed specialist.
- To prevent future use, all skid trails and other areas with bare or disturbed soils which intersect with roads would be disguised by raking and spreading slash and duff. Physical barriers may also be placed to discourage off-road traffic, if needed.

Air Quality

- Prior to prescribed fire operations (e.g. pile burning, shrubland prescribed burning, and forest understory burning), appropriate permits would be obtained from Great Basin Unified Air Pollution Control Board (GBUAPCB).
- "Burn" or "No Burn" day conditions would be adhered to, as determined by the California Air Resources Board (CARB).
- Conduct prescribed fire operations when meteorological conditions favor smoke dispersal away from smoke sensitive areas, such as the Ansel Adams Wilderness Class 1 airshed, and the communities of June Lake or Lee Vining.
- Limit emissions with prescribed burning to no more than 10 tons of PM10 per day, in accordance with GBUAPCD guidelines.

Cultural Resources

- A complete survey for cultural resources has been completed within the proposed project area. These cultural resource surveys and results are documented in the following reports: Mammoth-June Lake Cultural Resources Survey, Mono and Madera Counties, California (#R2009050401354) and June Loop Fuels Reduction Project (#R2011050401599). In areas where cultural resources have been documented, appropriate standard resource protection measures and treatment methods would be applied on a site specific basis prior to project implementation, as per the Sierra Nevada Programmatic agreement among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of the Sierra Nevada, California (Sierra PA; USDA Forest Service, Pacific Southwest Region, 2004).
- All known National Landmarks, National Register properties and potentially eligible properties have been identified within the proposed project area. Protection of cultural resources would be ensured throughout planning and implementation phases.
- Inyo National Forest Supplement to Prescribed Fire and the Protection of Heritage Resources, a Heritage Resource Management Module for the National Forests of the Sierra Nevada 1997 (Forest Supplement) and/or the Standard Protection Measures in the First Amended Regional Supplement 2001 would be applied on a site specific basis.

Botany and Invasive Plants

- In proposed treatment unit A-01 at Fern / Yost Lakes Trailhead, place physical barriers to discourage foot traffic, if post-treatment observation shows recreation use causes trampling of aspen sprouts within treated areas. Barriers could include boulders, logs, jackleg fencing, etc.
- All off-road equipment used on this project shall be washed before moving into the project area so that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds. "Off-road

equipment" includes all logging and construction equipment and such brushing equipment as brush hogs, masticators, and chippers; it does not include log trucks, chip vans, service vehicles, water trucks, pickup trucks, and similar vehicles not intended for off-road use. Equipment would be considered clean when visual inspection of tires, tracks, and underbody does not reveal soil, seeds, plant material or other such debris. Disassembly of equipment components or specialized inspection equipment is not required.

Recreation

- USFS would notify permittees when fuels reduction work would be implemented around developments which are located on National Forest System Lands, such as recreation residences, resorts, marinas, campgrounds, and other businesses or facilities.
- Where classified trails are located within fuels treatment units, these trails would either be protected during fuels project implementation or rehabilitated if affected by implementation.
- Short-term Recreation site or trail closures may be necessary during project implementation; however, closure duration would be minimized to the greatest extent possible.

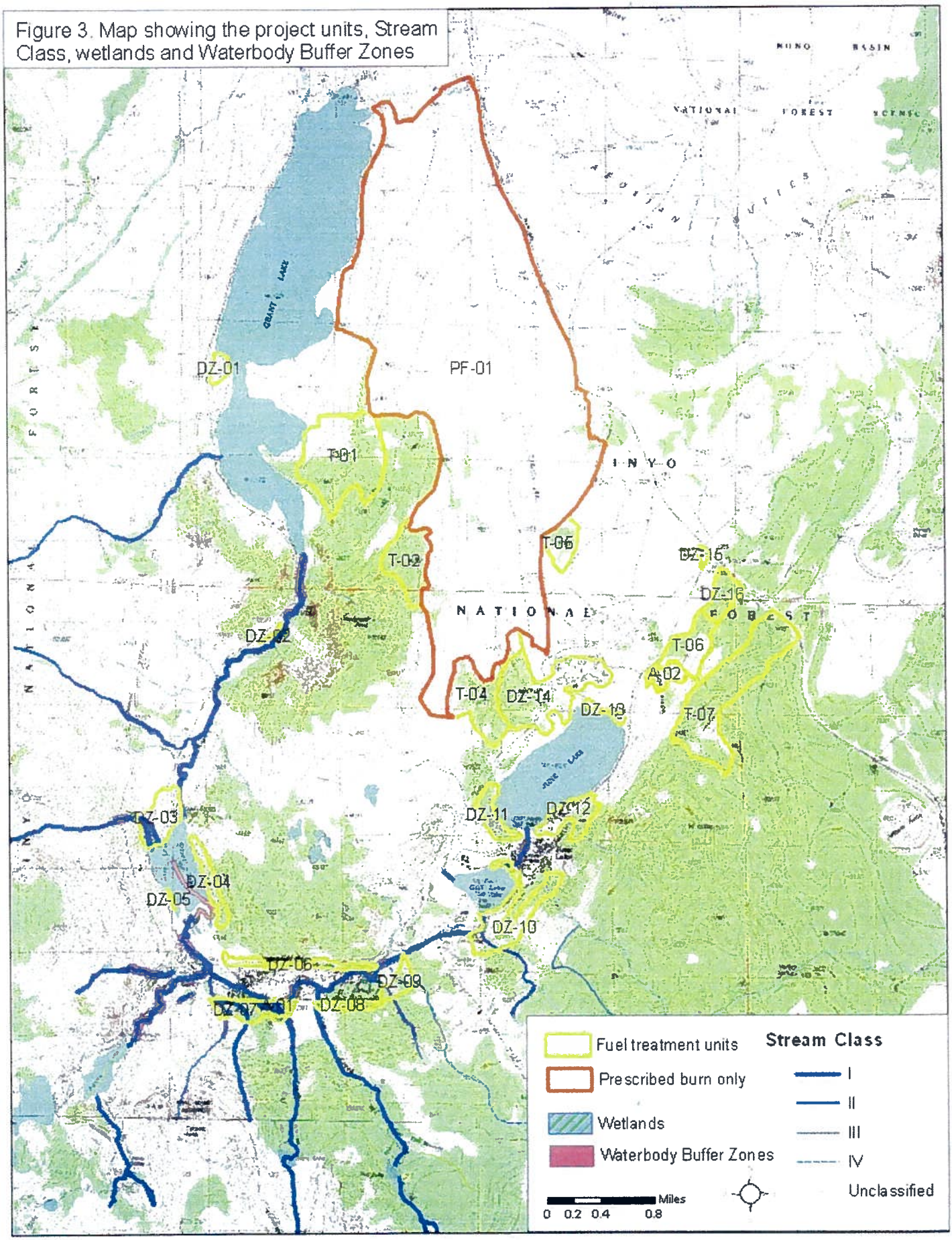
Visuals

- Require low stumps (less than 8", measured on uphill side of stump) and possibly further conceal them with dirt/duff if prominent within 75' of critical viewpoints such as main arterial roads.
- Trees to be marked in advance with paint on side away from sensitive viewpoints, such as arterial roads and campgrounds, or repaint in dark brown/gray (to match existing tree bark color), after project activities.
- Retain isolated clumps smaller diameter trees or shrubs (i.e. those that are not ladder fuels into the canopy of larger trees or shrubs) for visual and noise screening near private land

Monitoring Plan

- A Vegetation Management specialist or qualified representative would visit the sites after implementation to verify that project specifications were met and to qualitatively assess if desired conditions were achieved.
- Each year the accomplished project activities would be included in the pool for random selection of Watershed Best Management Practices (BMP) Effectiveness Monitoring sites to be conducted one winter season after treatments are implemented.
- The accomplished activities would be entered into the pool for selection of a subset of project sites for fuel treatment effectiveness monitoring as a part of the Interagency Inyo National Forest and Bishop BLM Fuels Programmatic Monitoring Program.

Figure 3. Map showing the project units, Stream Class, wetlands and Waterbody Buffer Zones



National Environmental Policy Act (NEPA)

Decision Notice (DN), Finding of No Significant Impact (FONSI), and Environmental Assessment (EA) for the June Loop Hazardous Fuels Reduction Project referenced in Section 5. c) of this application are attached below.

United States Department of Agriculture

Forest Service

Pacific Southwest Region

Decision Notice
and
Finding of No Significant Impact

June Loop Hazardous Fuels Reduction Project

Inyo National Forest
Mono Lake Ranger District
Mono County, California

Decision and Reasons for the Decision

I have reviewed the June Loop Hazardous Fuels Reduction Project Environmental Assessment (EA) and the supporting analyses in the project record, including documents incorporated by reference, and fully understand the environmental effects disclosed therein. I have also considered the comments submitted during public scoping for this project. The comments received during the scoping period with responses are available in the project record.

Decision

Based on the analysis described in the EA, it is my decision to implement **Alternative 2, Proposed Action** (EA, pgs. 5-18). My reasons for the decision are based on the purpose and need for the June Loop Hazardous Fuels Reduction Project (EA, pgs. 1-2), which includes the following:

- Decrease the risk of catastrophic wildfire for communities and developed recreation sites located in the June Lake Loop through strategically placed fuels reduction vegetation treatments. All fuels reduction work is located on National Forest lands within the Wildland Urban Intermix (WUI) defense and threat zones in the June Lake Loop. The Mono County Community Wildfire Protection Plan (2009) identifies this area as having very high to extreme wildfire hazard and as high priority for fuels reduction treatment.

- Implement fuels reduction treatments designed to meet the desired condition for WUI defense and threat zones. The desired condition, as outlined in the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004) is designed to reduce wildfire spread and intensity and includes: promoting fairly open stands with larger, fire tolerant trees; treating the surface and ladder fuel component to the extent that crown fire ignition is highly unlikely; and treating the crown fuels to the extent that the openness and discontinuity of crown fuels, both horizontally and vertically result in very low probability of sustained crown fire.

- Fuels reduction treatments would also meet the intent of CA Public Resources Code 4291 for creating the 100-foot wildfire defensible space surrounding private property with homes and other developed sites with structures.

- Reduce the risk of stand-replacing wildfire impacting forest and watershed resources, including water quality, wildlife habitat, scenic quality, and cultural resources.

Alternatives Considered

I did not select **Alternative 1 (No Action)** because it would not meet the purpose and need, as no fuels reduction treatments would occur, leaving the communities of June Lake, Clark Tract, Silver Lake / Dream Mountain and other developed recreation sites at high risk of a future catastrophic wildfire. The dense stand conditions would remain, and would also contribute to decreased forest health and forested stands susceptible to insect and disease infestations.

Public Involvement

The June Loop Hazardous Fuels Reduction Project has been listed in the Inyo National Forest Schedule of Proposed Actions (SOPA) since January, 2010. The Forest Service collaborated with the June Lake Citizens Advisory Council by meeting on September 7, 2010 and with the June Lake Fire Safe Council by meeting on October 5, 2010 while developing the proposal. A news release to announce a public collaborative meeting was published and posted locally at June Lake public bulletin boards on September 29, 2010. This public collaborative meeting was held in June Lake on October 14, 2010 and was attended by representatives from: June Lake Volunteer Fire Department; June Mountain Ski Area; June Lake Chamber of Commerce; Friends of the Inyo; the Silver Lake Recreation Cabin Tract; and members of the June Lake community.

The Forest Service initiated tribal consultation with five Tribes for the June Loop Hazardous Fuels Reduction Project through personal phone calls in the preliminary phase of project development. This early consultation resulted in a field visit to the project area on November 8, 2010 with a representative from one of these Tribes. In addition, formal tribal consultation letters were mailed on December 16, 2010 to those five Tribes. A representative from another Tribe provided their thoughts and concerns regarding the proposed fuels reduction activities in response to the consultation letter.

The Forest Service sent a scoping letter on December 15, 2010 to approximately 375 interested parties, adjacent landowners, and other agencies requesting input. An electronic copy of the scoping letter was also made available via the Inyo National Forest website. The scoping letter provided notification that the environmental analysis for the project was going to proceed under the Healthy Forest Restoration Act (HFRA) authority. A news release regarding the project proposal and public scoping letter was sent to the Inyo Register and other local news outlets on December 17, 2010. The announcement was broadcast on the Sierra Wave radio station.

Comment letters or calls were received from nine individuals or entities regarding the proposal, in response to the scoping letter. The majority of comments expressed support for the project and recognized the need for proposed fuel reduction actions. No significant issues were raised; therefore no alternatives other than the proposed action and no action alternative were fully developed and analyzed. Three minor issues were carried forward and analyzed in detail in the EA (EA, pgs. 18-24). A list of comments that were received and responses to those comments are documented in the project file and in Appendix C of the EA (EA, pgs. 57-60).

The legal notice, which provided notification that the EA was available for review and initiated the 30-day objection period, was published in the Inyo Register on July 7, 2011. Copies of the EA were mailed to 18 individuals and organizations. An electronic copy of the EA was made available via the Inyo National Forest website. The 30-day objection period closed on August 8, 2011. No objections were filed.

Finding of No Significant Impact

I have determined that this project is not a major Federal action that would significantly affect the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Therefore, an Environmental Impact Statement is not required. This determination was made considering the following factors:

1. *Beneficial and adverse impacts:*

Mitigations and management requirements designed to reduce the potential for adverse impacts were incorporated into the proposed action (i.e. standards and guidelines outlined in the Inyo National Forest LRMP (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004), Best Management Practices, etc.). These mitigations and management requirements would minimize or eliminate potential adverse impacts caused by fuels reduction treatments. All analyses prepared in support of this document considered both beneficial and adverse effects, but all effects determinations were made on the basis of only adverse effects. None of the potential adverse effects of the proposed action would be significant, even when considered separately from the beneficial effects that occur in conjunction with those adverse effects (EA pgs. 25-38).

2. *The degree to which the Proposed Action affects public health or safety:*

The fuels reduction treatments are designed to decrease the intensity of future wildland fires and the risk of crown fire in treated areas. These types of fuels reduction treatments have been documented as effective in decreasing severity of wildfires and modifying fire behavior so that crown fires were not sustained within treated areas during actual wildland fires (EA pg. 38). Thus, there would be improved public and firefighter safety, as the treatments are intended to slow the rate of fire spread, reduce fire intensity and modify fire behavior so that crown fire would not be sustained in treated areas. This would increase the chances that fire suppression forces could safely and effectively make a stand to control the wildfire. Smoke and air quality effects have been minimized using design features to ensure dissipation and transport of the smoke away from populated areas, and by design of the burning to comply with Great Basin Unified Air Pollution Control District guidelines for daily PM_{10} emissions. Implementation of the Proposed Action would be governed by standard public health and safety contract clauses, when work would be completed under contract (EA pg. 38).

3. *Unique characteristics of the geographic area:*

There are no parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas within the project area. The project area is located completely outside of designated wilderness, as well as Inventoried Roadless Areas. There are wetlands, and fuels reduction treatments have been designed to avoid adverse effects to those features.

Protection of cultural resources has been incorporated into the proposed action, and will follow the stipulations in the October, 2004 Programmatic Agreement (PA) between the Forests of the Sierra Nevada and the California State Historic Preservation Office (SHPO). Fuels reduction

treatment actions are designed with Standard Resource Protection Measures (SRPMs) for protection of all cultural resources, including flagging and avoiding of sites, and non-mechanical, manual handwork to remove fuels within site boundaries. The Fuels Archaeologist would determine the site-specific protection measures to be implemented within proposed treatment units where cultural resources are present. Details regarding the field surveys and management recommendations for heritage resources sites and features are contained in two Cultural Resource Reports (#R2009050401354 and #R2011050401599). By following the recommendations outlined in these reports, including the use of the standard procedures outlined in the Sierra PA, it was determined that there would be no effect to cultural resources from implementing this project (EA pgs. 37-38).

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial:*

The proposed project follows the management direction in the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the 2004 Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004). Potential adverse effects have been minimized to the point where there are few effects to draw controversy. Public involvement efforts did not reveal any significant issues or any other significant controversies regarding environmental effects of this proposal (EA pgs. 2-4). Based on comments from the public and the analysis of effects by an Interdisciplinary Team of Forest Service, there are no significant effects expected to the quality of the human environment from implementing the proposed action alternative.

5. *Degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:*

The proposed project follows the management direction in the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the 2004 Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004). It implements management requirements designed to reduce the potential for adverse effects. Local expertise in implementation of these types of projects minimizes the chance of highly uncertain effects or effects which involve unique or unknown risks. Proposed activities are routine in nature, employing standard practices and protection measures, and their effects are generally well known (EA pg. 39).

The fuels reduction actions are highly similar to recent decisions rendered on the Inyo National Forest for vegetation management actions with the Railroad Compartment EA (1993), the SCALP EA (1996), and the JPFHFR EA (2007). The Railroad Compartment EA covered approximately 2,400 acres, the SCALP EA covered approximately 14,000 acres, and the JPFHFR EA covered approximately 4,200 acres. Additional individual stands in the Tunnel, Sand, and Rust Compartments were also treated similarly, for a combined total of approximately 1,500 acres. In all these stands where tree thinning, slash treatment, and underburning have been completed, conditions for tree growth and development, and resilience to wildland fire and insects/diseases are improved. All stands are moving closer toward the desired condition described in the SNFPA-FSEIS.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*

The June Loop Hazardous Fuels Reduction project represents a site-specific project that does not set precedence for future decisions with significant effects or present a decision in principle about future considerations. Any future decisions would require a site-specific analysis to consider all relevant scientific and site-specific information available at that time. These activities are in accordance with the best available science to manage fuels and fire behavior at this time. These types of fuels reduction treatments have been documented as effective in decreasing severity of wildfires and modifying fire behavior so that crown fires were not sustained within treated areas during actual wildland fires (EA pg. 39).

7. *Whether this action is related to other actions with individually insignificant but cumulatively significant impacts:*

A cumulative effect is the consequence on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the actions occur. A cumulative effects analysis was completed separately for each resource area. None of the analyses found the potential for significant adverse cumulative effects (EA pgs. 39-51).

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:*

It was determined that there would be no effect to cultural resources from implementing this proposed action, and the proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. Protection of heritage resources in the area was incorporated into the proposed action through such measures as flagging and avoiding sites, directional felling, over-snow and helicopter logging (Sierra PA, 2004). Based on analysis documented in the Cultural Resource Reports (#R2009050401354 and #R2011050401599), the proposed action would not cause loss or destruction of significant, scientific, cultural, or historical resources (EA pg. 51).

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973:*

There are no federally listed threatened or endangered wildlife or plant species that are known to occur or have suitable habitat (including critical habitat) within the project area. There would be no effect to federally listed threatened or endangered wildlife or plant species or critical habitat from implementation of the proposed action (EA pg. 51).

There is habitat for one federal Candidate species, the sage-grouse. The determination by the wildlife biologists was that the proposed action may impact individuals, but would not lead toward federal listing or a loss of viability for sage-grouse (EA pgs. 20-22 and 40-43).

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment:*

The proposed action would not threaten a violation of Federal, State, or local law, or requirements imposed for the protection of the environment. The proposed action is consistent

with the Healthy Forest Restoration Act (HFRA), National Environmental Policy Act (NEPA), National Forest Management Act (NFMA), Endangered Species Act (ESA), Clean Water Act, and the National Historic Preservation Act (NHPA). The proposed action is fully consistent with the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004) (EA pgs. 4-5). In addition, the proposed action is in compliance with the California Public Resources Code 4291 for creating the 100-foot wildfire defensible space.

Objections under the Healthy Forest Restoration Act

This project is consistent with the Healthy Forest Restoration Act (HFRA) of 2003 (P.L. 108-248). Thus, it is not subject to the notice, comment, and appeal procedures of 36 CFR 215. A letter outlining the objection process and a copy of the EA were sent to 18 individuals and organizations that expressed interest in the project during scoping. A legal notice providing notification of the availability of the EA for review and which initiated the objection period was published in the Inyo Register on July 7, 2011. Thus, the 30-calendar-day objection period started on July 8, 2011. In accordance with 36 CFR 218, subpart A, the objection period was extended because the 30-calendar-day period expired on a Saturday, August 6, 2011. Therefore, the Inyo National Forest accepted objections to the EA through the next Federal working day, Monday, August 8, 2011. No objections were received.

Implementation Date

In accordance with 36 CFR 218, subpart A, implementation of this decision may begin immediately after it is executed.

Contact Information

For further information, contact me at: Mammoth Ranger Station, P.O. Box 148, Mammoth Lakes, CA 93546, (760) 924-5553. Email: jregelbrugge@fs.fed.us.

Jon C. Regelbrugge 8/15/11

JON C. REGELBRUGGE — DATE

District Ranger
Mammoth and Mono Lake Ranger Districts
Responsible Official

Environmental Assessment

June Loop Hazardous Fuels Reduction Project

USDA Forest Service, Inyo National Forest
Mono Lake Ranger District

Mono County, California
July 2011

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Table of Contents

Introduction

The USDA Forest Service, Inyo National Forest (INF) prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action. Additional documentation, including more detailed analyses of the project-area resources referenced in this document can be found in the Project Planning Record located at the Forest Service Mammoth Ranger District Office in Mammoth Lakes, CA.

The project is planned under the Healthy Forest Restoration Act (Public Law 108-148) authority. The project is located in the Highway 395 and Highway 158 corridor around June Lake Loop (Figure 1). The communities in the project area are surrounded by Forest Service lands.

Purpose and Need

The Inyo National Forest, Mono Lake Ranger District proposes to reduce hazardous fuels on 4578 acres of National Forest System (NFS) lands in the area of June Lake Loop, California. The proposed action would strategically reduce hazardous fuels by removing brush and trees around communities and recreational sites. The types of fuels reduction treatments include tree thinning, low intensity forest underburning, shrub removal (i.e. either cutting or mowing), shrubland prescribed burning, and removal of conifers from the overstory of two select aspen stands. Slash generated by tree or shrub thinning activities would be disposed of by piling and burning, chipping, hauling material off-site, and/or through the sale of fuelwood.

These fuel reduction actions are needed because successful fire suppression over the past 70+ years has precluded fire from performing its natural role of "thinning" forests and shrublands in areas proposed for treatment. Without periodic fire disturbance, trees and shrubs have grown unnaturally dense. As a result, there are high fuel loads under current conditions, including dense tree canopies in forested areas, and smaller trees in the forest understory which have potential to carry fire into the crowns of larger trees (refer to photos of fuel condition within the project area in Appendix B).

Because of high fuel loads, the Community Wildfire Protection Plan (CWPP) wildfire hazard ratings are Very High to Extreme for the June Lake, Clark Tract and Silver Lake / Dream Mountain communities within the June Lake Loop, California (Mono County 2009) (See map, Appendix A). The dense vegetation with heavy fuel conditions can quickly lead to wildland fires escaping initial containment efforts. Escaped wildfires have potential for becoming high-intensity, stand-replacing burns, which are both difficult and dangerous to control. This type of fire behavior was exhibited in close proximity to the project area during the June Fire of 2007 and the Mono Fire of 2010. As a consequence of high fuel loads, there is inadequate defensible space between developed recreation facilities, private homes and wildlands in the areas proposed for fuels reduction treatments.

The purpose of this project is to decrease likelihood that nearby homes, developments, and the June Lake, Clark Tract, and Silver Lake / Dream Mountain communities would be adversely affected by future wildland fires. All areas proposed for hazardous fuels reduction treatments are located on NFS lands within a 1.5 mile buffer surrounding communities and recreation developments within the June Lake Loop. This 1.5 mile buffer is commonly called the Wildland

– Urban Interface (WUI) zone. These NFS lands proposed for fuels reduction are rated as having very high to extreme wildfire hazard by the Mono County Community Wildfire Protection Plan (Mono County 2009). The Proposed Action incorporates and expands upon recommendations in the Community Wildfire Protection Plan for high priority fuels reduction work in the June Lake Loop, where located on NFS lands (Mono County 2009, pgs. 56-59).

Decision to be Made

The decision to be made by the USDA Forest Service is whether or not to implement fuels reduction activities on Inyo National Forest lands, as described in the Proposed Action. The Forest Service Deciding Official will issue a decision based on this Environmental Assessment consistent with their authority and the applicable laws, regulations, and policies.

Public Involvement

The Forest Service collaborated with the June Lake Citizens Advisory Council by meeting on September 7, 2010 and with the June Lake Fire Safe Council by meeting on October 5, 2010 while developing the proposal. A news release to announce a public collaborative meeting was published and posted locally at June Lake public bulletin boards on September 29, 2010. This public collaborative meeting was held in June Lake on October 14, 2010 and was attended by representatives from: June Lake Volunteer Fire Department; June Mountain Ski Area; June Lake Chamber of Commerce; Friends of the Inyo; the Silver Lake Recreation Cabin Tract; and members of the June Lake community.

The Forest Service initiated tribal consultation with five Tribes for the June Loop Hazardous Fuels Reduction Project through personal phone calls in the preliminary phase of project development (Kerwin 2011). This early consultation resulted in a field visit to the project area on November 8, 2010 with a representative from one of these Tribes. In addition, formal tribal consultation letters were mailed on December 16, 2010 to those five Tribes. A representative from another Tribe provided their thoughts and concerns regarding the proposed fuels reduction activities in response to the consultation letter.

The Forest Service sent a scoping letter on December 15, 2010 to interested parties, adjacent landowners, and other agencies requesting input. A news release regarding the project proposal and public scoping letter was sent to the Inyo Register and other local news outlets on December 17, 2010. The announcement was broadcast on the Sierra Wave radio station.

Comment letters or calls were received from nine individuals or entities regarding the proposal, in response to the scoping letter. The majority of comments expressed support for the project and recognized the need for proposed fuel reduction actions. Issues were identified from concerns expressed in consultation and scoping comments, as described in the next section.

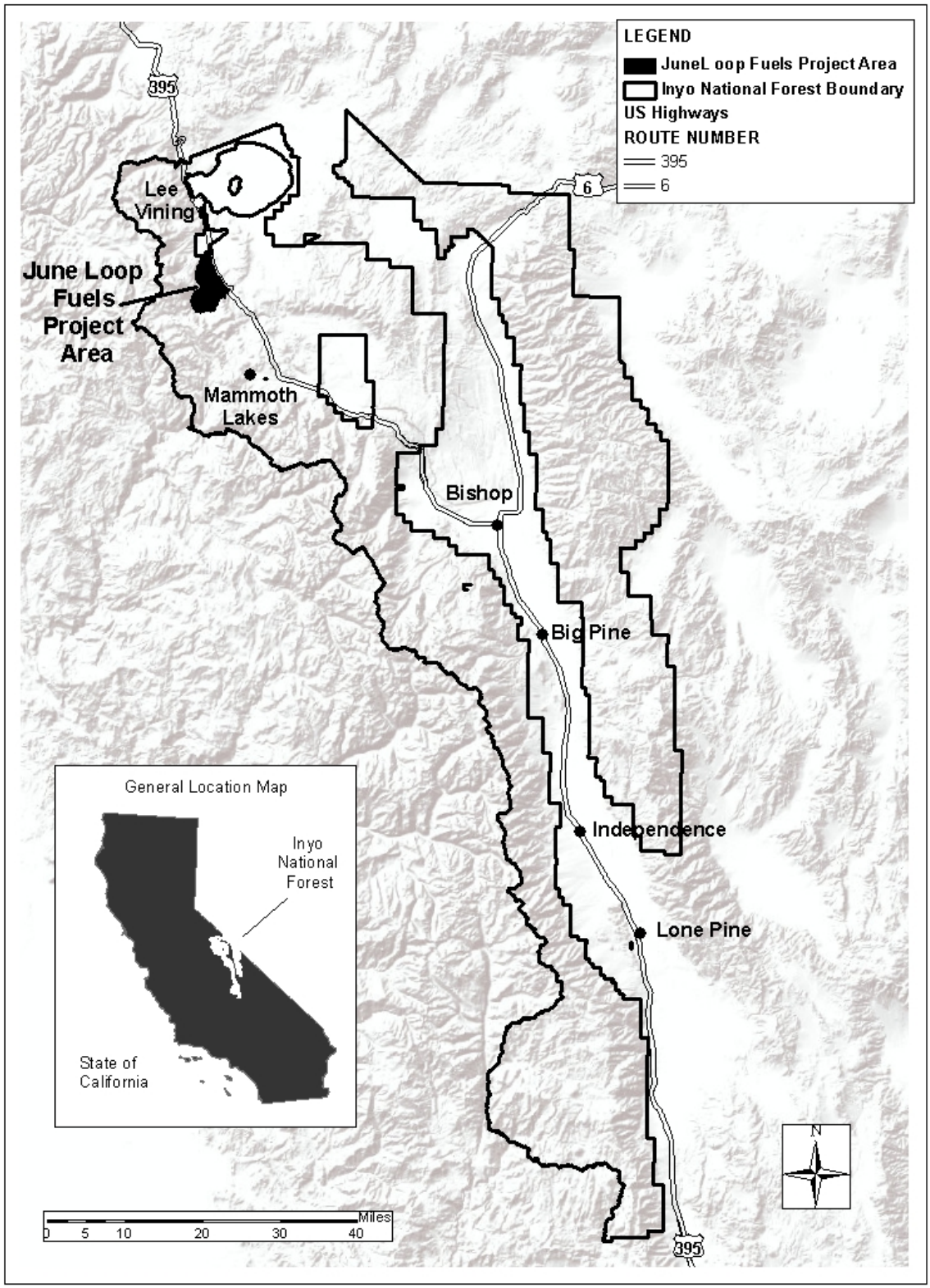

Figure 1. Project area map (proposed fuels treatment units are shown on a map in the Proposed Action section).

Issues

An issue, as it relates to the NEPA process, is a point of concern, disagreement, debate, or dispute with the proposed action based on some anticipated effect. Three issues were identified from consultation and scoping comments. These issues are listed below:

1. Vegetative management activities may impact mule deer and key habitat, especially in their migration corridor through proposed treatment unit PF-01.
2. Prescribed burning in proposed treatment unit PF-01 may impact sage-grouse and/or sage-grouse habitat.
3. The project may impact nesting migratory birds if proposed vegetation management activities occur during the avian breeding season.

These issues were used to modify the proposed action and design features. Each of these issues is analyzed in the Environmental Consequences section. A summary of the public comments and how comments and issues are addressed can be found in Appendix C (pg. 47). The complete comments and documentation of the issues from these comments are available in the project file at the Mammoth Ranger Station Office.

Plan Conformance

The Proposal conforms to the Inyo National Forest Land and Resource Management Plan as Amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 1988; USDA Forest Service 2004).

The project falls primarily in one Management Area (MA) in the Inyo National Forest Land and Resource Management Plan, the June Lake Loop MA with very small areas within the Glass Mountain MA and the Walker-Parker MA. The management prescriptions include Rx4: Mule Deer Habitat Emphasis, Rx9: Uneven-aged Timber Management, Rx11: Range Emphasis, Rx12: Concentrated Recreation Area, and Rx13: Existing Alpine Ski Area. The Proposal is consistent with the direction to maintain the integrity of the key mule deer habitat (pgs. 117-188), and provide for healthy vegetation with diversity of age classes (pgs. 130-131). The Mule Deer Habitat Emphasis calls for the use of prescribed fire for habitat improvement (pg 117). The Proposal has been designed to be consistent with the direction for each management prescription. It is also designed to be consistent with the Sierra Nevada Forest Plan Amendment, which puts a high priority on fuels treatments in the Wildland Urban Interface (USDA Forest Service 2004). The project is designed in accordance with legal direction in the "Healthy Forest Restoration Act" (HFRA 2003). HFRA mandates that the USDA Forest Service "shall implement authorized hazardous fuel reduction projects, consistent with the Implementation Plan, on – (1) Federal land in wildland-urban interface areas" (Sec. 102 (a)).

The project would achieve management objectives contained in the Inyo National Forest Plan, as amended by the Sierra Nevada Forest Plan Amendment – Final Supplemental Environmental Impact Statement (SNFPA-FSEIS, 2004). The SNFPA-FSEIS specifies that forested areas within the WUI zones be managed so the following objectives are met: surface and ladder fuel conditions are such that crown fire ignition is highly unlikely; and the openness and discontinuity of crown fuels, both horizontally and vertically, result in very low probability of sustained crown

fire.

The proposed fuels reduction treatments would decrease the intensity of future wildland fires and the risk of crown fire in the treated areas. This would increase the safety of residents and recreationists should a wildfire occur, and firefighters working to protect human life and property while suppressing wildfire. In addition, proposed treatments would reduce the threat of stand-replacing wildfire, and thereby protect healthy forest conditions for multiple resource benefits, such as recreation, water quality, rangeland forage and visual aesthetics.

Alternatives

Alternative 1 – No Action

Under the No Action alternative, no fuels treatments would occur. Vegetation densities would be allowed to remain high and outside the natural range of variability for the ecosystems in the project area. Surface and ladder fuels would not be treated, and risk of initiating or sustaining crown fire would not be relieved. In fact, fuel loads would continue to increase over time as trees and shrubs grow denser. Efforts at fire suppression would be challenging because of heavy fuel load and the high risk to developments and resources at risk. Under extreme fire weather conditions, there would be a very high to extreme risk of severe uncontained wildfire with threat to human life, and potential for loss of homes or other structures in the June Lake Loop (CWPP, Mono County 2009).

Alternative 2 – Proposed Action (Non-commercial Funding Alternative)

The Mono Lake Ranger District, Inyo National Forest proposes hazardous fuels reduction treatments on a total of 4,578 acres for the WUI zones within the area of June Lake Loop (Figure 2). The proposed action would strategically reduce hazardous fuels by removing brush and trees around communities and recreational sites in the June Lake Loop. Vegetation management actions would be focused on reducing the risk of crown fires by decreasing vegetation density to break up the horizontal continuity of fuels, and by removing “ladder” fuels to break up the vertical continuity of fuels. Ladder fuels are comprised of contiguous vertical layers of vegetation which can carry small surface fires into the tops of trees in the forest, like climbing the rungs on a ladder, and with hazard of creating a large crown fire.

The proposal includes periodic maintenance of the treatments as needed to retain effectiveness of fuel reduction zones. Material removed would be made available for personal-use and/or commercial fuelwood. All the treatments would be accomplished using a mix of Agency crews and contracts. The treatment methods and prescriptions for specific vegetation types are described below.

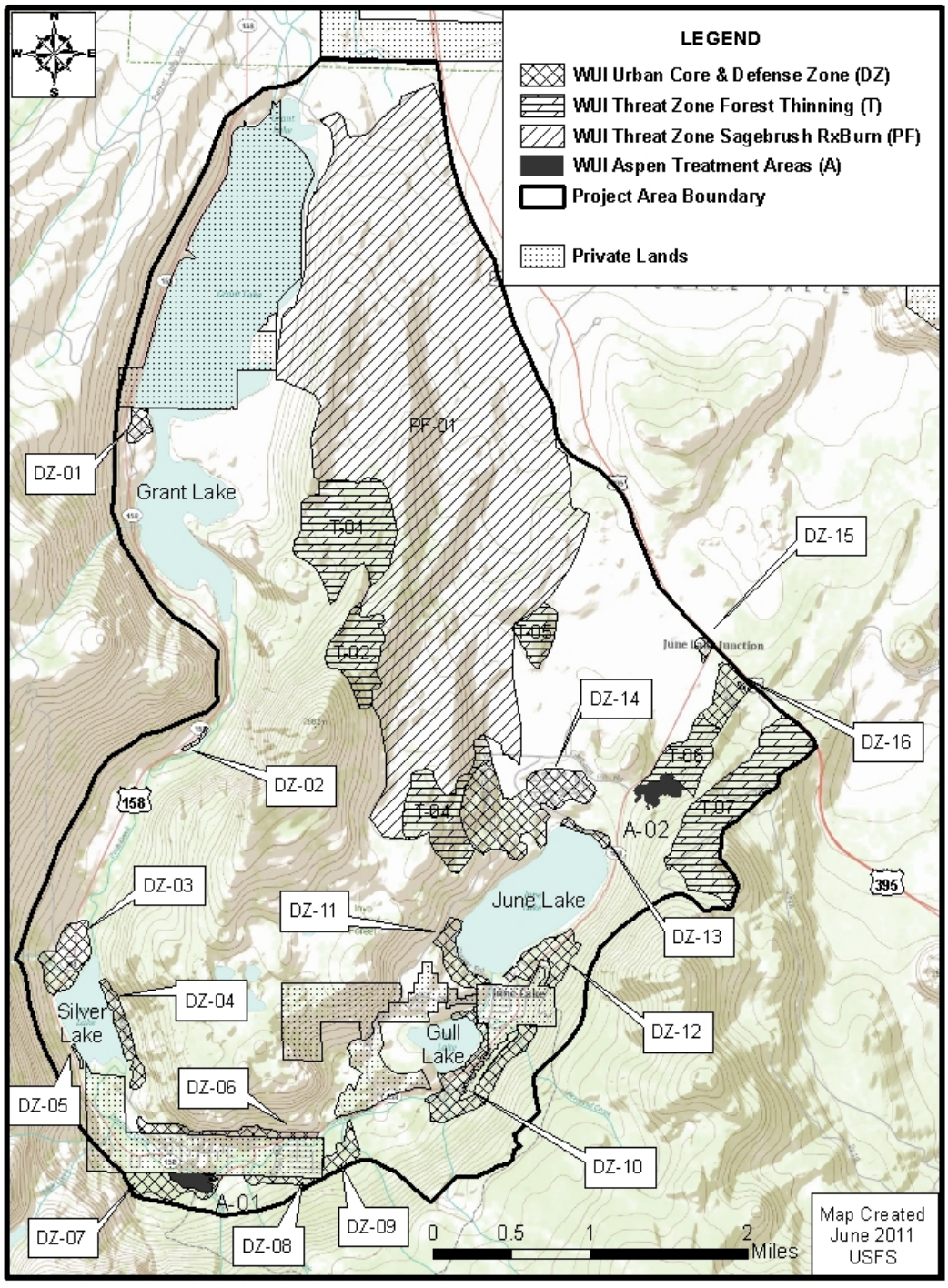

Figure 2. Proposed Action map: numbered treatment units correspond to the detailed description of proposed fuel reduction activities in the Proposed Action.

The Proposed Action would treat hazardous fuels on a total of 4578 acres for the WUI zones within the area of June Lake Loop, including 657 acres within the WUI urban core and defense zones, and 3921 acres within the WUI threat zone (Table 1). Key areas proposed for fuels reduction activities would include, but not be limited to, developed sites at Grant Lake, Silver Lake, Gull Lake, June Lake and South June Lake Junction, and at the private land boundary surrounding the community of June Lake (refer to Proposed Action Map, Figure 2). The types of fuels reduction treatments include tree thinning, low intensity forest underburning, shrub removal (i.e. either cutting or mowing), shrubland prescribed burning, and removal of conifers from the overstory of two select aspen stands. Slash generated by tree or shrub thinning activities would be disposed of by piling and burning, chipping, hauling material off-site, and/or through the sale of fuelwood. Proposed fuel reduction treatments are described in greater detail in the following sections of this document.

It is anticipated that 7 to 10 years may be needed to complete fuel reduction activities in all proposed treatment units, because of the size of the project and the large number of acres proposed for treatment. Initial work would be expected to start in late 2011 or early 2012. Proposed treatment areas would be accessed via existing roads. No new roads would be constructed for this project. Mechanical equipment would operate off-road using temporary access routes, where terrain permits.

Public firewood gathering would be permitted within proposed forest thinning units in the WUI threat zone (i.e. treatment units T-01 through T-07). Personal use fuelwood may be made available from other treatment units, though there may be limited access for vehicles in those areas. In case of limited vehicle access, the wood could either be hauled off-site or made available at another site where there is existing road access, or would be piled adjacent to treatment units, along existing roads where the public has ready access.

For fuel reduction work to remain effective, treatment units would need to receive periodic maintenance work. In shrubland ecosystems, the grasses, forbs and shrubs re-sprout relatively quickly following mowing. Therefore, mowing would need to be conducted every 3 to 5 years in shrublands to retain the effectiveness of fuel reduction treatments. In forested ecosystems, new trees would grow into treated sites, though at a relatively slower rate compared to re-growth in shrublands. As a consequence, tree thinning and/or prescribed burning in forested areas would need to be conducted every 10 to 20 years to retain effectiveness of fuel reduction. Prescribed burning in shrublands would also require maintenance burning every 10 to 20 years to retain effectiveness.

Table 1. List of Proposed Fuel Reduction Treatment Units.

WUI Fuels Treatment Area	Area Name	Unit_No	Acres
Urban Core & Defense Zone	Grant Lake Marina & Campground	DZ-01	16.0
Urban Core & Defense Zone	Aerie Crag Picnic Site	DZ-02	2.6
Urban Core & Defense Zone	Silver Lake Resort, Campgrounds & Pack Station	DZ-03	60.6
Urban Core & Defense Zone	Silver Lake Recreation Cabin Tract	DZ-04	33.1
Urban Core & Defense Zone	Silver Lake Picnic Site	DZ-05	1.9
Urban Core & Defense Zone	Private Lands Boundary	DZ-06	32.2
Urban Core & Defense Zone	Fern Lake Trailhead & Private Lands Boundary	DZ-07	36.1
Urban Core & Defense Zone	Private Lands Boundary	DZ-08	14.0
Urban Core & Defense Zone	Private Lands Boundary	DZ-09	24.2
Urban Core & Defense Zone	Gull Lake Recreation Cabin Tract, Campgrounds & Private Lands Boundary	DZ-10	93.1
Urban Core & Defense Zone	June Lake Recreation Cabin Tract	DZ-11	35.3
Urban Core & Defense Zone	June Lake Marina, Campground, Resorts, Recreation Cabin Tract & Private Lands Boundary	DZ-12	51.7
Urban Core & Defense Zone	June Lake Beach Day Use Site	DZ-13	9.5
Urban Core & Defense Zone	Pine Cliff Resort & Oh Ridge Campground	DZ-14	185.4
Urban Core & Defense Zone	South June Lake Junction Store, Café & Service Station	DZ-15	6.3
Urban Core & Defense Zone	Crater Recreation Cabin Tract	DZ-16	40.2
Defense Zone Aspen Stand	Aspen Stand No. 0011 @ Fern Lake Trailhead	A-01	15.0
Threat Zone Aspen Stand	Aspen Stand No. 0014 @ Oh Ridge	A-02	23.4
Threat Zone Forest Thinning	North of Reverse dPeak	T-01	221.6
Threat Zone Forest Thinning	North of Reversed Peak	T-02	93.0
Threat Zone Forest Thinning	East of Reversed Peak	T-04	125.2
Threat Zone Forest Thinning	East of Reversed Peak	T-05	44.3
Threat Zone Forest Thinning	South of June Lake Junction	T-06	68.6
Threat Zone Forest Thinning	South of June Lake Junction	T-07	237.9
Threat Zone Shrubland Prescribed Burning	North & East of Reversed Peak; West of Hwy. 395	PF-01	3106.6

Urban Core and Defense Zone Treatment

Within the 216 acres of Urban Core in the project area, treatments would create 100-foot defensible space zones around recreation facilities and other developments on USFS lands, and at the boundary with private properties where there are homes or other private developments. Urban core fuels reduction treatments are intended to comply with requirements for wildfire defensible space specified in CA Code 4291, which is commonly known as 100-foot defensible space (refer to "General Guidelines for Creating Defensible Space"; Cal Fire 2006).

Fuels reduction treatments in the 100-foot defensible space zone would be tailored to site-specific conditions. Not all defensible space treatment activities would be needed at each site. For example, there are very few conifer trees at the Grant Lake campground, and thus, no tree removal or thinning would be needed at that site. In addition, some special use permittees have

already completed light fuels reduction work, such as trimming trees and shrubs or clearing plant litter from the ground. Proposed fuels reduction activities would be designed to complement any work already completed by the permittees.

Urban core, 100-foot defensible space treatments would include the following fuels reduction activities within portions of treatment units DZ-01 through DZ-16:

- Select removal of small diameter conifers (e.g. generally less than 16" dbh) where they area colonizing in the understory of aspen stands; from below the canopy of larger trees (e.g. ladder fuels); and within the 100-foot defensible space zone around buildings.
- Prune tree limbs on residual conifer trees to a height of 8 to 12 feet, or no more than 1/3 of tree height for smaller trees, whichever is less.
- Select removal of shrubs either by hand cutting around recreation cabin tract structures, resort facilities, and fire station structures; or by mowing spot treatment around recreation site facilities, such as fire pits, barbeque grills, picnic tables, restroom buildings, along the shoulder of access roads, and around perimeter of developed recreation sites.
- Disposal of slash, as well as dead and down material, by chipping or piling and burning (note: there would be no slash disposal within aspen stands or the 25-foot buffer in Water Body Buffer Zones along streams or lake shores, except in unit DZ-07).

Urban core fuel reduction treatments would be accomplished using chainsaws and hand labor to selectively remove small diameter conifers and shrubs, and to prune limbs on residual conifers. Shrub mowing would be accomplished using mechanical equipment, such as a Bobcat or All-Season Vehicle (ASV). Shrubs would be mowed and mulched in select locations around recreation site facilities. The width and shape of the mowing area would vary to work around specific features such as campground structures, large boulders, steeper slopes, riparian vegetation, or cultural resource sites. No mowing would occur in areas with riparian vegetation.

The U.S. Forest Service (USFS) would collaborate with those who hold special use permits for recreation facilities and other developments on USFS lands to implement the 100-foot defensible space treatments. Special use permittees would have primary responsibility for fuels reduction actions on the area authorized for their use under permit. USFS would take the lead for implementation of fuels reduction work on the area surrounding the special use permit lot or site, including the 100-foot zone if it exceeds the perimeter of the special use lot or site, and on the remaining area of the WUI defense zone.

Defense zone treatments are proposed on approximately 441 acres in portions of units DZ-01 through DZ-16 which extend beyond the Urban Core (note: the acreage within unit A-01 is also counted in the section describing aspen treatments, therefore the 15 acres in unit A-01 is double-counted). Defense zone fuels reduction work would tie into and extend beyond the 100-foot defensible space zone in the Urban Core. Defense zone treatments would include the following fuels reduction activities:

- Tree thinning within all or portions of proposed treatment units DZ-07, DZ-08, DZ-09, DZ-10, DZ-11, DZ-12, DZ-14 and DZ-16; tree thinning would be completed with the same silvicultural prescription as described for threat zone forest thinning and silviculture design criteria in subsequent sections of this document.

- Shrub thinning is proposed in areas with stands of mountain mahogany, located within portions of treatment units DZ-04, DZ-06, DZ-11. Mountain mahogany would be thinned so that individual shrubs would be spaced at least 30 feet apart. In addition, sagebrush, bitterbrush and other low-growing shrubs would be cut and removed around the base of residual mountain mahogany or scattered conifers. Slash less than 6 inch diameter would be chipped or piled and burned. Slash greater than 6 inch diameter could be made available as fuelwood. Shrub thinning would be accomplished using chainsaws and hand labor in areas where equipment access is prohibited by lack of roads, steep slopes or rock outcrop. In areas with access, shrub thinning may be accomplished using mechanical equipment, such as an ASV or bobcat.
- Conifer removal from the overstory of the aspen stand in proposed treatment unit A-01; a description of the proposed actions for conifer removal from the overstory of aspen stands is described in detail in a subsequent section of this document.
- Construction of temporary bridges would be required for equipment to access and remove biomass from proposed treatment units A-01 and DZ-08, because there are multiple braided stream channels in these units which create "islands" of dense, overstocked conifers. Temporary bridges may also be needed in proposed treatment units DZ-09 and DZ-10, if access into these units is not authorized from adjacent private lands. It is anticipated that four to seven temporary bridges would be needed to access these sites. Temporary bridges would be constructed using down logs to span the stream, with decking material laid across the log spans. In addition, decking material may be used as the foundation for skid trails to operate equipment in areas of moist soil within these two units, to avoid soil rutting and compaction.

Threat Zone Forest Thinning Treatment

Forest thinning is proposed on 791 acres within the WUI threat zone, including proposed treatment units T-01, T-02, T-04, T-05, T-06 and T-07 (note: there is no treatment unit with number T-03, because it was combined with T-02 during the process of project development). This is in addition to tree thinning areas within the WUI defense zone, described in the previous section.

To create greater forest and landscape diversity, the following would be applied to all proposed tree thinning areas, unless otherwise noted:

- Protect remaining old-growth Jeffrey pine (usually at least 175 years old and exhibiting orange-red colored, thick, platy bark) by removing all trees under and within an area equal to 1.5 times the radius of the drip line of the old-growth tree(s), which may act as a fuel ladder.
- Leave 10% of each stand unthinned in small patches (less than 1 acre) scattered throughout the stand. Dense clumps of natural regeneration would be preferred, as well as clumps containing shrubs and large rocks. This design feature would only apply to treatment areas located within the WUI threat zone, and would not apply within WUI Defense Zones.

Tree thinning would be accomplished using chainsaws and hand labor to cut trees. In most areas, removal of cut trees would be accomplished using mechanical equipment, such as an excavator or skid-steer. However, tree removal would be completed by hand labor in specific areas. These

specific areas include sites with steeper slopes or areas with loose volcanic ash or pumice on the soil surface. Slash would be disposed of through chipping, piling and burning, and/or through sale of fuelwood. Following slash disposal, low intensity understory burning would be completed for forest thinning units within WUI threat zone. Understory burning would not be implemented for treatment units within WUI defense zone.

Threat Zone Shrubland Prescribed Burning Treatment

Prescribed burning is proposed in sagebrush as part of the June Loop Hazardous Fuels Reduction Project. The purpose of this prescribed burning is to create seral diversity in these dense, mature shrublands, disrupt continuity of the fuels, and reduce rate of spread and burn intensity for potential wildfire in this area. The burn prescription is designed with the intent to maintain sage-grouse habitat. The total treatment unit encompasses approximately 3107 acres, though no more than 30% of the area would be blackened by prescribed fire upon conclusion of the project. Thus, a maximum of approximately 930 acres would be burned. Shrubland prescribed burning would be accomplished in proposed treatment unit PF-01, with the following specifications:

- Prescribed burning would be completed when fuel moisture would limit spread of fire, typically in late winter or early spring.
- Prescribed burning would be implemented in discrete parts of the unit, over a period of 7-10 years.
- Shrubs would be burned in small patches. For the first year of implementation, patch size would be smaller, 1-4 acres. In subsequent years, patch size could increase up to 10 acres; if monitoring from the first year demonstrates desirable results (refer to next section for adaptive management treatment strategy). Desired results would be to have burn patch size limited to 10 acres or less for 90% of the area blackened, with the leniency to allow several larger patches up to 30 acres in size on no more than 10% of the area blackened. As a contingency, fire suppression actions would be taken to contain and control any fire when patch size exceeds 30 acres.
- Individual Jeffrey pine trees colonizing within the sagebrush treatment unit would be torched and killed with prescribed fire, or mechanically cut with chainsaw then left or burned after curing.
- Small stands of Jeffrey pines within the sagebrush treatment unit would not be cut or burned rather these stands would be left untreated.
- The treatment unit is relatively free of invasive plant species, though cheatgrass is known to occur in a few small sites, such as on the moraine above Grant Lake. A pre-treatment survey for invasive plant species such as cheatgrass would be conducted, and prescribed burning would not occur in immediate vicinity of areas where invasive plants are found.

Shrubland prescribed burning in proposed treatment unit PF-01 would be completed according to the following adaptive management strategy:

- Prescribed burning would first be implemented in the smaller subunits bounded by existing roads, which could serve as containment lines for fire.
- Monitoring would occur in a sample of the sagebrush patches which are burned during first and second years of implementation. Monitoring would be completed during the summer and/or fall of 1st, 2nd, 3rd, 5th and 10th years post-treatment. The objectives for monitoring would be to verify that treatment results are consistent with prescribed patch size and amount of area burned. Monitoring would also document degree of vegetative

recovery within burned patches, possible use of habitat by sage-grouse, and verify that invasive plant species are not colonizing and dominating treated areas.

- If monitoring documents desirable results following burning, then subsequent burning would proceed with the same prescription. If monitoring documents undesirable results following burning, then subsequent burning would be deferred pending assessment of reasons and remedies for undesirable results, and determination by the Deciding Official to proceed with remedies for further prescribed burning. Undesirable results would include the following: burned area exceeds 30% of treatment unit; burned patch size exceeds 30 acres on more than 3 burned patches; invasive plant species are not becoming dominant in burned areas.

Defense and Threat Zone Aspen Stand Treatment

Conifer removal from the overstory is proposed for 2 select aspen stands which occur on 38 acres within the June Loop Hazardous Fuels Reduction Project area. The proposed conifer removal from the overstory of aspen stands would be completed within treatment units A-01 and A-02, according to the following specifications:

- Cutting of all conifer <24" dbh within the aspen stand, and the stand perimeter up to 1) 1 ½ times the height of aspen trees in the stand, 2) distance required to prevent remaining, adjacent conifers from carrying a crown fire should the aspen stand burn in a wildfire or 3) up to 100 feet (to conduct treatments or process treatment by-products), whichever is greater.
- Conifers 24" dbh or greater may be retained if they are not in a position to carry a crown fire into adjacent forested areas should the aspen stand burn in a wildfire. Only single trees of this size would be retained (i.e. no clumps) unless those clumps are not in a position to carry a crown fire into adjacent forested areas should the aspen stand burn in a wildfire. These trees would be marked before treatment occurs.
- All conifers greater than 30" dbh would be retained, except those deemed a direct safety hazard for crews working in the stand.
- Dead aspen stems may be removed unless there is need to retain aspen snags for other resource values, such as structure for wildlife habitat or protection of cultural resources.
- Removal of conifers would be conducted using mechanical equipment where feasible. Cut trees would be removed from the treatment unit perimeter by operating equipment on the drier areas at the edge of the stand, and cabling or lifting logs out of the stand. Equipment would access the stand via existing roads, and no new roads would be constructed.
- In aspen treatment unit A-01, equipment access would require construction of temporary bridges to cross braided segments of stream which create 4 "islands" within the stand. It is anticipated that four temporary bridges would be needed.

Design Features

The following describes the design features that will be used to implement the Proposed Action Alternative:

Silviculture

- Trees would be thinned to an average leave basal area of 80 to 120 square feet per acre, depending on site quality. Poorer quality sites would be thinned to lower basal areas and

better quality sites would be thinned to higher basal areas. There may be exceptions where the leave basal area is greater because of very large diameter trees which would not be removed. There may also be exceptions where the leave basal area is less because of natural openings in the forest or sites where dense pockets of smaller diameter white fir are removed.

- Thinning would occur from below, removing suppressed, intermediate, and a sufficient number of co-dominant trees to achieve the desired leave basal area. For all stands, the vast majority of trees to be thinned would be in the 10 to 20 inch diameter at breast height (dbh) range. Relatively few trees over 20 inches dbh are expected to be thinned, and no trees over 24 inches dbh would be cut as part of this prescription (except those deemed a direct safety hazard for crews, and in aspen stand treatment units A-01 and A-02, as described in the previous section).
- Favor retaining shade intolerant conifer species, such as Jeffrey pine or large diameter Sierra juniper. Favor removing shade tolerant species, such as white fir. Where white fir has invaded Jeffrey pine stands due to disruption of the natural fire regime, Jeffrey pine is the preferred species for retention. Retain and/or recruit for stands dominated by larger, older Jeffrey pine trees by thinning excess trees to reduce inter-tree competition and achieve appropriate, site-specific stand densities. Protect remaining old-growth Jeffrey pine (usually at least 175 years old and exhibiting orangish colored, thick, platy bark) by removing all trees under and within at least 15 feet of the drip line of the old-growth tree(s), which may act as a fuel ladder.
- To minimize the possibility of an increase in the root disease *Heterobasidion annosus*, Jeffrey pine stumps greater than 14 inches in diameter would be treated with sodium tetraborate dechahydrate (commonly known as "borax") and sold as Sporax™. To reduce the risk of an increase in the root disease *H. annosus*, the following apply to all Jeffrey pine treatment areas unless otherwise noted:
  - ✓ All Jeffrey pine stumps greater than 14 inches in diameter would be treated with Sporax™ at a rate of one pound per 50 square feet of stump surface.
  - ✓ Application would follow all State and Federal rules and regulations as they apply to this pesticide application.
  - ✓ Sporax™ would be applied within 4 hours of stump creation. Sporax™ would not be applied on rainy days or within 200 feet of running water.

Wildlife

- No mechanical treatments would occur within northern goshawk Protected Activity Centers (PACs).
- For all proposed treatment areas, a goshawk nest survey would be conducted before any tree thinning/cutting operations commence. The survey would be conducted by a Forest Service Wildlife Biologist. If tree thinning/cutting operations are not complete within 3 years of the initial survey, the stand would be re-surveyed.
- A Limited Operating Period (LOP) would be maintained prohibiting vegetation treatments within approximately ¼ mile of any northern goshawk nest site during the breeding season (February 15 through September 15), unless surveys confirm that northern goshawks are not nesting. If the nest stand within a PAC is unknown, the LOP would either be applied to a ¼ mile area surrounding the PAC, or surveys would be conducted to determine the nest stand location.

- Prior to conducting fuels treatment in unit DZ-11, conduct a survey to determine whether the historic bald eagle nest is being utilized. If nesting activity is detected, implement a limited operating period and defer treatment until a Forest Service Wildlife Biologist determines that the juveniles have fledged.
- No mechanical operations would occur during the primary nesting period for resident and neotropical migratory birds (May 15 thru July 30). This LOP may be adjusted during any year if a Forest Service Wildlife Biologist determines that the breeding chronology does not coincide with these dates.
- As sage-grouse nesting may occur within the treatment unit PF-01, avoid implementation of sagebrush prescribed burning during the nesting season (April to May). This LOP may be adjusted during any year if a Forest Service Wildlife Biologist determines that the breeding chronology does not coincide with these dates.
- Maintain habitat connectivity between summer and winter sage-grouse range by conducting prescribed burns in the southern half of PF-01 during the migration period. This limitation may be waived during any year if a Forest Service Wildlife Biologist determines that the migration chronology does not coincide with the dates of prescribed burning.
- Where operationally feasible, attempt to retain up to three of the largest existing snags per acre. Where few snags exist, create up to 3 snags per acre throughout each treatment area. Snags would be created by topping and limbing, and/or girdling residual trees.
- *Snag retention and creation in WUI Defense and Threat Zone stands or portions of stands would be managed at a level so as to not pose a hazard to private residences or firefighters attempting to utilize these zones during fire suppression operations.*
- Where operationally feasible, attempt to retain up to three of the largest Class 1, 2, or 3 down logs per acre. Equipment used for mechanical slash piling or mowing/mulching would minimize disturbance to all classes of down logs exceeding 20 inches in diameter at the large end and 20 feet in overall length. Where few Class 1, 2, or 3 down logs exist, create up to 3 down logs per acre throughout each stand. Down logs would be created by either hand felling with a chainsaw, or by pushing them over with heavy equipment.
- *Down log retention and creation in WUI Defense and Threat Zone stands or portions of stands would be managed at a level so as to not pose a hazard to firefighters attempting to utilize these zones during fire suppression operations*.

Soils and Hydrology

- Mechanical harvesting equipment would not be used when wet weather operations or wet soil conditions would adversely affect soil porosity, hydrologic function, or runoff potential. Mechanical removal shall be limited to when the soil is dry to 6 inches; **EXCEPT** in Units A-01, DZ-07, DZ-08 and DZ-09 where equipment may operate on wet ground by travelling on decking, slash or other material, as recommended by a Forest Service Watershed Specialist to avoid adverse soil rutting and compaction.
- Low ground pressure equipment or hand work would be used to conduct operations within Waterbody Buffer Zones; **EXCEPT** in Units DZ-07, DZ-08, DZ-09 and A-01 where the large amount of biomass and density of stream channels may require the use of other (higher ground pressure) mechanized equipment within WBZs. In these cases, a watershed specialist would help design access points, skid trails, and operation guidelines to prevent adverse effects to water quality. This may require using decking material, slash, or logs on skid trails to minimize soil impacts, and would include placing slash or

other material on any skid trails or other areas that have reduced soil cover after equipment entry.

- Construction of temporary bridges would be required for equipment to access and remove biomass from proposed treatment Units DZ-07, DZ-08, DZ-09 and A-01, because there are multiple braided stream channels in these units which create "islands" of dense, overstocked conifers. These temporary bridges would be removed if a high flow event is predicted or before winter, in order to prevent obstruction of flow or diverting water out of the channel.
- Ground-based skidding equipment would be used only on slopes averaging less than 20% in areas with layers of pumice at the soil surface and less than 30% in other areas, unless otherwise determined by a Forest Service Watershed Specialist.
- Main skid trail pattern (spacing and placement) would be agreed upon prior to any harvesting operations. Where feasible, old skid trails and roads would be used.
- Trees > 3 inch dbh to be removed within the WBZs would be designated by written prescription, and all trees to be removed greater than 14 inches would be marked by a natural resource professional or supervised designee.
- For treatment of Jeffrey pine stumps to control root rot, Sporax™ would not be applied on rainy days or within 200 feet of running water.
- Activity generated slash would be removed, piled, and burned outside of the aspen stand or any riparian area. There would be no slash disposal/pile burning within aspen stands or the 25-foot buffer in WBZs along streams or lake shores; **EXCEPT** in DZ-07, DZ-08, DZ-09 and A-01 where slash piles may be placed and burned within the 25-foot buffer in the WBZs. Within this 25-foot buffer slash piles would not exceed 10-foot diameter and 5-foot height, slash would be piled with at least 20 feet spacing between piles (so no more than 10% of area within the 25-foot would be affected). A watershed specialist would be consulted for recommendations on locations for slash piles, to best prevent adverse effects to water quality, based on topography, distance to water, pile size, and pile density.
- Chipped material would not be discharged to waterbodies or deposited in locations were such material may discharge to a waterbody.
- Fuel would not be stored within WBZs unless it has proper containment and equipment would not be refueled within WBZs. Equipment and vehicles should have a spill containment kit and should be inspected for fluid leaks regularly.
- All areas disturbed by this project would be stabilized at the conclusion of operations or before the winter period. Work within the WBZ that causes ruts or other features that would have the potential to affect flow patterns would be repaired before the winter season or predicted high flows
- Any areas receiving detrimental soil compaction as a result of harvesting operations would be sub-soiled, as determined by a Forest Service watershed specialist.
- To prevent future use, all skid trails and other areas with bare or disturbed soils which intersect with roads would be disguised by raking and spreading slash and duff. Physical barriers may also be placed to discourage off-road traffic, if needed.

Air Quality

- Prior to prescribed fire operations (e.g. pile burning, shrubland prescribed burning, and forest understory burning), appropriate permits would be obtained from Great Basin Unified Air Pollution Control Board (GBUAPCB).

- "Burn" or "No Burn" day conditions would be adhered to, as determined by the California Air Resources Board (CARB).
- Conduct prescribed fire operations when meteorological conditions favor smoke dispersal away from smoke sensitive areas, such as the Ansel Adams Wilderness Class 1 airshed, and the communities of June Lake or Lee Vining.
- Limit emissions with prescribed burning to no more than 10 tons of PM_{10} per day, in accordance with GBUAPCD guidelines.

Cultural Resources

- A complete survey for cultural resources has been completed within the proposed project area. These cultural resource surveys and results are documented in the following reports: Mammoth-June Lake Cultural Resources Survey, Mono and Madera Counties, California (#R2009050401354) and June Loop Fuels Reduction Project (#R2011050401599). In areas where cultural resources have been documented, appropriate standard resource protection measures and treatment methods would be applied on a site specific basis prior to project implementation, as per the Sierra Nevada Programmatic agreement among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the identification, Evaluation and Treatment of Historic Properties Managed by the National Forests of the Sierra Nevada, California (Sierra PA; USDA Forest Service, Pacific Southwest Region, 2004).
- All known National Landmarks, National Register properties and potentially eligible properties have been identified within the proposed project area. Protection of cultural resources would be ensured throughout planning and implementation phases.
- Inyo National Forest Supplement to Prescribed Fire and the Protection of Heritage Resources, a Heritage Resource Management Module for the National Forests of the Sierra Nevada 1997 (Forest Supplement) and/or the Standard Protection Measures in the First Amended Regional Supplement 2001 would be applied on a site specific basis.

Botany and Invasive Plants

- No slash pile burning would take place in the areas of treatment that overlap with occupied habitat of Mono Lake lupine. This design feature would be applied to those portions of units PF-01, DZ-15, DZ-15 and T-04 where this sensitive plant occurs (applies to a total of approximately 78 acres within these 4 proposed treatment units).
- In proposed treatment units DZ-12 at June Lake campground and A-01 at Fern / Yost Lakes Trailhead, place physical barriers to discourage foot traffic, if post-treatment observation shows recreation use causes trampling of aspen sprouts within treated areas. Barriers could include boulders, logs, jackleg fencing, etc.
- All off-road equipment used on this project shall be washed before moving into the project area so that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds. "Off-road equipment" includes all logging and construction equipment and such brushing equipment as brush hogs, masticators, and chippers; it does not include log trucks, chip vans, service vehicles, water trucks, pickup trucks, and similar vehicles not intended for off-road use. Equipment would be considered clean when visual inspection of tires, tracks, and

underbody does not reveal soil, seeds, plant material or other such debris. Disassembly of equipment components or specialized inspection equipment is not required.

- Mark areas in the vicinity of Boulder Lodge (e.g. unit DZ-12) where there is bouncing bet and avoid during treatments, monitor post-treatment; dense patches of cheatgrass at Aerie Crag picnic area and Frontier Pack Station (e.g. units DZ-02 and DZ-03) should be avoided as much as possible.
- Treatment unit PF-01 is relatively free of invasive plant species, though cheatgrass is known to occur in a few small sites, such as on the moraine above Grant Lake. Fire personnel would be trained in weed identification to facilitate avoidance of dense weed patches during prescribed burn implementation. Fire personnel would conduct a pre-treatment survey for invasive plant species such as cheatgrass at the time of implementation. Fire ignition would not occur in the immediate vicinity if invasive plants are found. In addition, controlled burn treatment areas would be monitored for weed invasion after burning, as described previously.

Recreation

- USFS would notify permittees when fuels reduction work would be implemented around developments which are located on National Forest System Lands, such as recreation residences, resorts, marinas, campgrounds, and other businesses or facilities.
- Where classified trails are located within fuels treatment units, these trails would either be protected during fuels project implementation or rehabilitated if affected by implementation.
- Short-term Recreation site or trail closures may be necessary during project implementation; however, closure duration would be minimized to the greatest extent possible.

Visuals

- Require low stumps (less than 8", measured on uphill side of stump) and possibly further conceal them with dirt/duff if prominent within 75' of critical viewpoints such as main arterial roads.
- Trees to be marked in advance with paint on side away from sensitive viewpoints, such as arterial roads and campgrounds, or repaint in dark brown/gray (to match existing tree bark color), after project activities.
- Retain isolated clumps smaller diameter trees or shrubs (i.e. those that are not ladder fuels into the canopy of larger trees or shrubs) for visual and noise screening near private land
- Vary the width of shrub mowing along roads or around recreations sites and facilities.
- Leave few clumps of shrubs within area to be mowed in irregular patterns (generally these would occur where equipment is forced to mow around large rocks).
- Feather out the area of treatment along recreation site roads so the edge of the treated area is irregular.

Monitoring Plan

- A Vegetation Management specialist or qualified representative would visit the sites after implementation to verify that project specifications were met and to qualitatively assess if desired conditions were achieved.

- Each year the accomplished project activities would be included in the pool for random selection of Watershed Best Management Practices (BMP) Effectiveness Monitoring sites to be conducted one winter season after treatments are implemented.
- The accomplished activities would be entered into the pool for selection of a subset of project sites for fuel treatment effectiveness monitoring as a part of the Interagency Inyo National Forest and Bishop BLM Fuels Programmatic Monitoring Program.
- Post treatment noxious weed monitoring would be conducted in the recreation sites after implementation and in any treatment site scheduled for maintenance treatments (see Noxious Weed Design Features above).
- Post-treatment monitoring would occur in unit PF-01, as previously described for the shrubland prescribed burning treatment.

This is the non-commercial alternative in accordance with regional direction (R5 Guidance on Meeting Judge England's November 4, 2009 Order to Include a Noncommercial Funding Alternative at the Project Level for Sierra Nevada Framework Forests Fuel Reduction Projects, December 11, 2009). The proposed action complies with requirements for the non-commercial alternative because the trees proposed for removal would be only those necessary to meet the fuels reduction purpose and need.

Environmental Consequences

This section summarizes the physical, biological, social, and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It describes the environmental impacts of the proposal in relation to whether there may be significant environmental effects as described in 40 CFR 1508.27. Further analysis and conclusions about the potential effects are available in resource specialist reports and other supporting documentation located in the project record. These reports contain more detailed data, methodologies, analyses, conclusions, maps, references, and technical documentation that the resource specialist relied upon to reach the conclusions in this EA (Johnson 2011; Kerwin 2011; Lutrick 2011a; Lutrick 2011b; Murphy 2011; Perloff 2011; Perloff and Sims 2011; Weis 2011a; Weis 2011b).

Effects Relative to Issues

The effects related to the issues, identified during consultation and public scoping, are discussed below.

Issue #1: Vegetative management activities may impact mule deer and their key habitat, especially in their migration corridor through proposed treatment unit PF-01.

The effects to mule deer were analyzed in the Mule Deer Report (Perloff 2011), which is incorporated by reference. Findings from this report are summarized and the conclusions are discussed here.

Suitable mule deer habitat can be composed of four elements: fawning, foraging, thermal and hiding cover, and winter range. Forage and cover are the primary habitat elements present in the project area. Hiding cover has low vegetation near the ground and thick enough to camouflage the outline of a deer, while not dense enough to obscure the approach of potential predators.

Thermal cover is similar and generally thought to be denser, with the additional property of sheltering deer from the elements. Foraging habitat consists of areas with ample shrubs, forbs and grasses, often in expanses of shrub-steppe vegetation. High quality forage is most important in spring when pregnant does seek out nutritious grasses, forbs and new annual leader growth on bitterbrush.

Approximately 240 acres of key mule deer habitat, as identified in the Forest Plan (Management Prescription #4), overlap with proposed treatment units, primarily T-02 and PF-01. Deer mostly utilize the project area as transition range during spring and fall migration, typically May through early June and September through early October. The majority of deer use Warren Bench as summer range, which is west of the project area. A few deer remain in the project area during summer.

Under existing conditions in the project area, coniferous forests have dense tree canopies with smaller trees in the understory, while habitat in unit PF-01 consists of dense, mature sagebrush and/or bitterbrush with sparse grass or forbs beneath the shrubs. Thus, there is an abundance of the cover habitat element for mule deer in forested areas such as in unit T-02, though the foraging habitat quality is lower because of shrub decadence and paucity of herbaceous growth in the shrub-steppe in Unit PF-01.

Because of the density of vegetation in the project treatment areas, there is vertical and horizontal continuity of vegetation biomass which readily carries wildfire. Thus, these areas are at high risk for stand-replacing wildfire under existing conditions. Under the No Action Alternative, there is higher risk of a large stand-replacing wildfire which would likely have longer term, detrimental impacts to mule deer habitat compared to the Proposed Action Alternative.

Under the Proposed Action, tree thinning would reduce overall hiding and thermal cover in unit T-02. Overall, habitat would remain suitable because adequate cover would be retained by leaving 10 percent of each forest thinning treatment unit un-thinned. Prescribed burning in unit PF-01 would cause a short-term reduction in forage. This effect would be minor because burn patches would be small, generally less than 10 acres, and sufficient forage would remain available between burn patches to support mule deer during both spring and fall migration. Over the long-term, prescribed burning would have a beneficial effect on habitat by restoring seral diversity within the shrub-steppe community and promoting growth of herbaceous vegetation which has high nutritional value for mule deer.

Under the Proposed Action, project activities would typically be implemented during summer (tree or shrub thinning) and late fall / winter / early spring (prescribed burning). For the few deer remaining in the project area during summer, there may be minor individual displacement during daylight hours as a result of project activities. This disturbance would be of short duration, low intensity and very localized. Overall the Proposed Action would be unlikely to substantially alter deer use patterns, including migration, within suitable habitat because the time of year in which deer use the area does not substantially overlap with timing of project activities.

Issue #2: Prescribed burning in proposed treatment unit PF-01 may impact sage-grouse and/or sage-grouse habitat.

U.S. Fish and Wildlife Service (USFWS) expressed concerns about sage-grouse and sage-grouse habitat in their comment letter, specifically: prescribed burning in proposed treatment unit PF-01 may impact sage-grouse during their nesting season (generally April-May), and/or during their migration between their summer range west of Grant Lake and their winter range east of Highway 395; in addition, duration of post-burn vegetation monitoring in proposed treatment unit PF-01 may not be adequate to evaluate effects on sage-grouse habitat especially for slower growing plants such as sagebrush.

USFWS also recommended remedy for these concerns, which have been incorporated into design of the Proposed Action as follows:

- Avoid implementation of sagebrush prescribed burning in unit PF-01 during sage-grouse nesting season, which is generally April to May;
- Maintain sage-grouse habitat connectivity between summer and winter range by burning in the southern portion of unit PF-01 during the migration period, which varies annually based on weather and snow conditions;
- These limitations for proposed activities in unit PF-01 may be adjusted by a qualified biologist if the annual breeding or migration chronology does not coincide with dates of planned prescribed burning;
- Monitoring would occur in the sagebrush patches which are burned during first and second years of implementation. Monitoring would be completed during the summer and/or fall of 1^{st}, 2^{nd}, 3^{rd}, 5^{th} and 10^{th} years post-treatment. The objectives for monitoring would be to verify that treatment results are consistent with prescribed patch size and amount of area burned. Monitoring would also document degree of vegetative recovery within burned patches, and possible use of habitat by sage-grouse.

The effects to sage-grouse and habitat were analyzed in the Wildlife Biological Evaluation / Assessment, Management Indicator Species, and Neotropical Migratory Bird Report (Perloff and Sims 2011), which is incorporated by reference. Findings from this report are summarized and the conclusions are discussed here.

In March 2010, USFWS issued a finding that the Bi-state population of sage-grouse (previously referred to as Mono Basin area population) meets criteria as a distinct population segment (DPS) of greater sage-grouse, and warrants listing under the Endangered Species Act (ESA) but is precluded by higher priority listing actions. As a result the Bi-State DPS was placed on list of species that are candidates for ESA protection, as priority 3.

With the Bi-state DPS, the South Mono Population Management Unit (PMU) is one of six in western NV and eastern CA. Of these six PMUs, only two are likely to persist over next 30 years: South Mono PMU is one of those two. Still, South Mono PMU may also contract in size without conservation efforts or recovery actions. The Parker breeding population is located in extreme northwest part of South Mono PMU, in the vicinity of north June Lake Loop. Breeding activity is known around Parker Meadows, with a strutting ground (i.e. Lek PM01) located approximately 2 miles northwest of proposed treatment unit PF-01.

The United States Geological Survey (USGS), under contract with the California Department of Fish and Game (CA DFG), conducted radio-telemetry study of sage-grouse in the Parker breeding population from 2001 to 2005. USGS found Parker breeding population stayed close to Parker lek complex during spring, summer and fall; then moved approximately 4 miles east for winter where grouse use focused on an area burned by wildfire in 1985. Unit PF-01 is located approximately half-way between the summer and winter range for the Parker breeding population. Though unit PF-01 has suitable habitat for sage-grouse, especially in the northern portion, USGS telemetry monitoring failed to detect any radio-collared birds within unit PF-01. USFS conducted additional ground-transect surveys in 2010, but found no evidence of sage-grouse use in unit PF-01.

Under existing conditions, sage-grouse habitat in unit PF-01 consists of dense, mature sagebrush and/or bitterbrush with sparse grass or forbs beneath the shrubs. High shrub density and lack of adequate perennial herbaceous cover are likely contributing factors in grouse not using the area in unit PF-01 under existing conditions. Grouse may also currently avoid use of the area in unit PF-01 because of proximity to Hwy. 395 or presence of a power-line that crosses the unit in north to south alignment.

Because of mature shrub density, the continuity of fuels puts this habitat at risk for stand-replacing wildfire, as seen during the nearby Mono Fire in 2010. With stand-replacing wildfire, suitability of grouse habitat is temporarily lost or diminished, with recovery being long-term. Under the No Action Alternative, there is higher risk of a large stand-replacing wildfire which would likely have longer term, detrimental impacts to sage-grouse habitat compared to the Proposed Action Alternative.

Under the Proposed Action Alternative, prescribed burning in unit PF-01 would create openings in dense shrubs and remove single tree encroachment within the shrublands. These openings would support early seral habitat and increase perennial herbaceous cover. This would be a beneficial effect for habitat because fairly open stands of sagebrush, with perennial herbaceous cover, are needed by sage-grouse for nesting. Single tree removal would improve habitat by eliminating perches for raptors which prey on sage-grouse. There would also be beneficial effect on habitat because the openings would disrupt continuity of fuels and reduce overall fuel loads, thereby decreasing risk of stand-replacing wildfire.

Under the Proposed Action Alternative, prescribed burning in unit PF-01 could cause temporary displacement of individual birds from the immediate area. The probability of this effect occurring would be low because grouse are not known to use the area where prescribed burning is proposed. Also, the LOP for burning during nesting and migration seasons would preclude impacts during these periods if sage-grouse move into this area in the future. This effect would be minor and short-term, because on average burning would typically occur on a few days per year and would affect small patches of habitat totaling approximately 90-100 acres annually. The proposed action may impact individual greater sage-grouse but would not result in a trend toward Federal listing or loss of viability within the planning area. This determination is based on: the proposed treatment area is not currently occupied by sage-grouse; the proposed action would be expected to have a beneficial effect on habitat; the proposed adaptive management strategy, including monitoring, would allow for project modification if desired results are not realized; the

timing of implementation would not disturb grouse during critical breeding and nesting periods, if present.

Issue #3: The project may impact nesting migratory birds if proposed vegetation management activities occur during the avian breeding season.

U.S. Fish and Wildlife Service (USFWS) expressed these concerns about nesting migratory birds in their comment letter. USFWS also provided recommended remedy for these concerns. The remedies recommended by USFWS have been incorporated into design of the Proposed Action Alternative, as follows:

- No mechanical operations would occur during the primary nesting period for resident and neotropical migratory birds (May 15 thru July 30). This limited operating period (LOP) may be adjusted during any year if a Forest Service Wildlife Biologist determines that the breeding chronology does not coincide with these dates.

The effects to migratory birds were analyzed in the Wildlife Biological Evaluation / Assessment, Management Indicator Species, and Neotropical Migratory Bird Report (Perloff and Sims 2011), which is incorporated by reference. Findings from this report are summarized and the conclusions are discussed here.

Habitat for neotropical migratory birds within the project area primarily consists of two distinct vegetation communities: coniferous forest and sagebrush-steppe. Limited riparian habitat occurs in the project area, though riparian vegetation would not be removed as part of the proposed fuels reduction treatments. Fourteen bird species which use coniferous forest and sagebrush-steppe habitat were selected from the California Partners in Flight priority species list. These species were used to analyze potential project impacts on neotropical migrants. For the majority of these species, breeding season typically begins in May and lasts through July, though their breeding chronology can vary year-to-year because of weather, spring snow-pack, and other environmental factors.

With existing conditions in the project treatment areas, coniferous forests have dense tree canopies with smaller trees in the understory, while the sagebrush- steppe has thick, decadent shrubs. Because of the density of vegetation, there is vertical and horizontal continuity of vegetation biomass which readily carries wildfire. Thus, these areas are at high risk for stand-replacing wildfire under existing conditions. Under the No Action Alternative, there is higher risk of a large stand-replacing wildfire which would likely have longer term, detrimental impacts to migratory bird habitat compared to the Proposed Action Alternative.

Under the Proposed Action Alternative, project activities would modify habitat for neotropical migratory birds. Thinning of smaller diameter trees and shrubs on approximately 1471 acres, and prescribed burning of about 932 acres of sagebrush would reduce availability of substrate for nesting and cover. This effect would be minor and short-term, because there is adequate, suitable replacement habitat in nearby areas.

Under the Proposed Action Alternative, the potential for impacts to migratory bird nests, young or juveniles would be allayed through implementation of an LOP during primary nesting season (May15-July 30). Beyond the primary nesting season, there is potential for direct disturbance or displacement of migratory birds during implementation of project activities. This effect would be

minor, because there is adequate, suitable replacement habitat in nearby areas where displaced birds could find refuge for foraging and roosting activities. The effect would be short-term, as birds would re-occupy treated areas upon completion of project activities.

Comparison of Alternatives relative to Issues

Issue	Measure	Alternative 1: No Action	Alternative 2: Proposed Action
#1: Effects to mule deer and their key habitat, especially unit PF-01	Impacts to mule deer habitat from proposed fuels reduction activities	**None**	Minor, Short-term reduction in cover; Beneficial, Long-term increased herbaceous forage production
	Risk of impacts to mule deer habitat with stand-replacing wildfire	High, long-term recovery following high severity fire	**Moderate** Beneficial effect with lower risk of impacts from high severity fire
	Impacts to mule deer from proposed fuel reduction activities	**None**	Minor, Short-term displacement of few individuals
	Risk of impacts to mule deer from stand-replacing wildfire	**Low** - Deer not typically present in project area during summer when wildfire likely to occur	**Low**- Deer not typically present in project area during summer when wildfire likely to occur
#2: Effects to sage-grouse and habitat in unit PF-01	Impacts to sage-grouse habitat from proposed fuels reduction activities	**None**	Minor, Short-term reduction in shrub cover; Beneficial, Long-term increased herbaceous forage production
	Risk of impacts to sage-grouse habitat with stand-replacing wildfire	High, long-term recovery with high severity fire	**Moderate** Beneficial effect with lower risk of impacts from high severity fire
	Impacts to sage-grouse from proposed fuel reduction activities	**None**	**None** during nesting season with LOP; Minor, Short-term displacement of individuals if present in project area
	Risk of impacts to sage-grouse from stand-replacing wildfire	**Low** – Sage-grouse not known to be present in project area during summer when wildfire likely to occur	**Low**- sage-grouse not known to be present in project area during summer when wildfire likely to occur
#3: Effects to neotropical migratory birds and their habitat	Impacts to migratory bird habitat from proposed fuels reduction activities	**None**	Minor, Short-term reduction in cover and nesting substrate
	Risk of impacts to migratory bird habitat with stand-replacing wildfire	High, long-term recovery with high severity fire	**Low to moderate** Beneficial effect with lower risk of impacts from high severity fire
	Impacts to migratory birds from proposed fuel reduction activities	**None**	**None** during nesting season with LOP; Minor, Short-term displacement of individuals
	Risk of impacts to migratory birds from stand-replacing wildfire	High	**Low to moderate**

Effects Relative to Finding of No Significance (FONSI) Elements

In 1978, the Council on Environmental Quality published regulations for implementing the National Environmental Policy Act (NEPA). These regulations (40 CFR Parts 1500-1508) include a definition of "significant" as used in NEPA. The ten elements of this definition are critical to reducing paperwork through use of a finding of no significant impact (FONSI) when an action would not have a significant effect on the human environment, and is therefore exempt from requirements to prepare an environmental impact statement (EIS). Significance as used in NEPA requires consideration of the following ten intensity factors in the appropriate context for that factor. Impacts may occur in the short-term and/or long-term. For analysis of the FONSI elements, short-term is defined as 10 years or less. Long-term is more than 10 years.

(1) Beneficial and adverse impacts

Mitigations and management requirements designed to reduce the potential for adverse impacts were incorporated into the proposed action as design features (i.e. standards and guidelines outlined in the Inyo National Forest LRMP (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004). These design features would minimize or eliminate potential adverse impacts caused by fuels reduction treatments.

A discussion of potential direct and indirect effects is summarized below from supporting analysis (Johnson 2011; Kerwin 2011; Lutrick 2011a; Lutrick 2011b; Murphy 2011; Perloff 2011; Perloff and Sims 2011; Weis 2011a; Weis 2011b). Discussion of cumulative effects is found in a subsequent section of this document, under FONSI element (7). All analyses prepared in support of this document considered both beneficial and adverse effects of the proposed action; however determinations for the finding of no significant impact were made on the basis of only adverse effects. None of the potential adverse effects of the proposed action or no action alternative would be significant, even when considered separately from the beneficial effects that occur in conjunction with those adverse effects.

Silviculture

Impacts to forest stands are summarized from the Silviculturist Report, which is hereby incorporated by reference (Johnson 2011).

With the No Action Alternative, the short and long-term effect would be a continued slow decline in tree growth and vigor, due to increasing stand densities and inter-tree competition for limited soil moisture and nutrients, as well as growing space. Eventually stand growth would stagnate. Overall stand heterogeneity would decrease, as remaining large, old Jeffrey pine trees die off and few new trees are able to become established due to lack of growing space.

With No Action, risk of adverse impacts from wildland fire would continue to grow as stand health and vigor decline. Fire severity is often worse where surface, ladder, and aerial fuels are heavier and more continuous. Whole stands or large portions of stands, including the oldest and largest trees, could be killed if a high-intensity wildland fire were to occur.

With No Action, risk of adverse impacts from insect and disease outbreaks would grow as stand health and vigor decline. Where inter-tree competition for scarce resources is high, vulnerability

to insects, such as the Jeffrey pine bark beetle and fir engraver beetle would increase. The periodic natural cycles of drought would further increase this risk. Large portions of stands, including the oldest and largest trees, could be killed if a prolonged, drought-induced insect or disease outbreak were to occur.

Under the Proposed Action Alternative, stand growth and vigor would improve almost immediately. Tree height, diameter at breast height (dbh), and live crown volume would increase due to reduced competition for soil moisture and nutrients, as well as growing space. Over the longer-term, stand heterogeneity would increase, as older, larger trees are allowed to develop due to decreased inter-tree competition and increased growing space. Likewise, opportunities for a new, younger age class would develop where openings and other favorable conditions exist.

With the Proposed Action, risk of adverse impacts from wildland fire may briefly increase immediately following thinning operations as a result of slash accumulation, but subsequently would decrease substantially when the full suite of fuels treatment activities (e.g. slash disposal, and underburning) are completed (Safford et al., 2009). Risk of adverse impacts from insect and disease outbreaks would decrease as stand health and vigor improve. Inter-tree competition for scarce resources would be reduced, and so too, the vulnerability to insects, such as the Jeffrey pine bark beetle and fir engraver beetle (Fettig et al., 2007). The periodic natural cycles of drought would produce less mortality than the No Action Alternative, as the trees would be less stressed and better able to mount the necessary natural defense mechanisms to ward off the beetle attack.

Thinning can exacerbate annosus root disease, as freshly cut stumps present potential infection routes for *H. annosum* to live trees. When stumps are treated with Sporax™, as is proposed in this alternative, the risk of infection is minimized (Otrosina and Scharpf, 1989).

Wildlife

Impacts to wildlife are summarized from the Wildlife Biological Evaluation / Assessment, Management Indicator Species, and Neotropical Migratory Bird Report, and the Mule Deer Report which are hereby incorporated by reference (Perloff 2011; Perloff and Sims 2011).

Impacts to specific wildlife species and habitat raised as issues in the public comment are analyzed in the Effects Relative to Issues section above, including mule deer, sage-grouse and neotropical migratory birds. The predicted adverse effects of the Proposed Action are minor and short term, while the predicted beneficial effects are moderate and long term due to the lowered risk of stand-replacing wildfires (see pg. 17).

Habitat within the proposed project area was analyzed for suitability for all threatened, endangered, proposed, and sensitive (TEPS) animal species potentially occurring on the Inyo National Forest based on maps, aerial photos and field surveys. Four TEPS species were found to have potential habitat in the project area, the northern goshawk, bald eagle, greater sage-grouse and American marten (Perloff and Sims 2011). Impacts to sage-grouse and their habitat are analyzed in the Effects Relative to Issues section, and will not be reiterated here. Impacts to

northern goshawk, bald eagle, American marten, and their habitats are analyzed in the following paragraphs.

Northern goshawk habitat occurs in two proposed treatment units: DZ-07 and A-01. These two units encompass 41 acres of conifer and aspen forest with sufficient tree size and density to support moderate quality nesting and foraging habitat. Both units were surveyed using Region-5 protocol during summer of 2010 and no sign of goshawks was detected. Units DZ-08 and DZ-09 support less dense stands of conifer and aspen which provide marginal quality foraging habitat. No Protected Activity Centers (PACs) overlap any of the proposed treatment units. The nearest PAC is located approximately 1.2 miles southeast of unit T-07, where nesting goshawks were located during the 2010 breeding season.

Under existing conditions, goshawk habitat in units DZ-07, A-01, DZ-08 and DZ-09 consists of dense forest with multiple, vertical layers in the canopy, and notable amount of tree mortality. With the No Action Alternative, the continuity of fuels and presence of ladder fuels puts this habitat at high risk for stand-replacing wildfire, as seen during the nearby June Fire in 2007. In the event of stand-replacing wildfire, suitability of northern goshawk habitat would be diminished or lost, with recovery being long-term.

Under the Proposed Action Alternative, fuels reduction treatment would decrease quality of suitable nesting habitat in units DZ-07, A-01, DZ-08 and DZ-09, though the quality of foraging habitat may be slightly enhanced by thinning from below in areas with an extremely dense forest understory. This represents a reduction of habitat quality over approximately 0.9 percent of the available suitable habitat in the area. The reduction in habitat quality with proposed fuels reduction actions would have only minor or negligible effects on northern goshawk, since 99.1 percent of suitable habitat would remain unmanaged. Fuels reduction actions would have indirect beneficial effect on goshawk habitat by protecting the large contiguous blocks of unmanaged suitable habitat from human-caused fires originating in areas of urban development.

Any goshawks using the area during project implementation might be disturbed by noise associated with fuels reduction activities, which might cause individuals to temporarily vacate the area. This perturbation would be minor and of short duration because displaced individuals would be able to reoccupy a site shortly after activities ceased. As no goshawks are currently nesting within or near the project area, there would be no impact during the species critical reproductive period. If nesting goshawks are discovered in the future, an LOP would be implemented to avoid disturbance to nesting birds. Based on the above analysis of effects, the wildlife biologist's determination is the proposed action may impact individuals, but would not lead toward federal listing or a loss of viability for northern goshawk (Perloff and Sims 2011).

Bald eagles are found near lakes along SR 158 during the winter months, with typically no more than 3-4 individuals present during any given year. Beginning in 2004, at least two birds were found to remain near the western edge of June Lake throughout the summer, where their activity centered at a large Jeffrey pine with the remnants of a stick nest near the top. Possible nesting activity was detected during the summers of 2004 through 2008; however it is unknown whether the pair was successful in fledging young. Since 2008, no activity has been detected at this potential nest site, which is located in the southeast corner of treatment unit DZ-11. Bald eagles

have been reported to use large diameter Jeffrey pines as hunting perches along the southeast shore of June Lake in treatment unit DZ-12 (Perloff and Sims 2011).

Under existing conditions, bald eagle habitat in units DZ-11 and DZ-12 consists of dense shrubs and trees with multiple, vertical layers in the forest canopy. With the No Action Alternative, the continuity of fuels and presence of ladder fuels puts this habitat at high risk for stand-replacing wildfire, as seen during the nearby June Fire in 2007. In the event of stand-replacing wildfire, suitability of bald eagle habitat would be diminished or lost, with recovery being long-term.

Under the Proposed Action, all large diameter (i.e. greater than 30 inch dbh) pine and fir trees would be retained, and would continue to serve as the primary habitat element for bald eagles near June Lake. Project implementation may have indirect beneficial effect of extending longevity of these large trees by removing competition from smaller trees and reducing hazard of stand-replacing wildfire.

To minimize or eliminate potential disturbance to bald eagles during their breeding season, a survey would be conducted in treatment unit DZ-11 prior to conducting fuels reduction activities. If nesting activity is detected, then a limited operating period would be employed to defer treatment until after juvenile bald eagles have fledged. Thus, project implementation would have negligible impact on bald eagles. Based on the above assessment, the wildlife biologist concluded that the proposed actions may impact individual bald eagles but would not result in a trend towards Federal listing or loss of viability within the planning area (Perloff and Sims 2011).

American marten habitat closely coincides with that identified for northern goshawks; units DZ-07 and A-01 encompass 41 acres of conifer and aspen forest with sufficient tree size and density and near-ground cover to support martens. Units DZ-08 and DZ-09 support less dense stands of conifer and aspen which provide marginal quality foraging habitat. Previous surveys for American marten resulted in individual detections in suitable habitat at elevations above 8500 feet within the June Mountain Ski Area boundary, but none within one mile of the project area.

Under existing conditions, American marten habitat in units DZ-07, A-01, DZ-08 and DZ-09 consists of dense forest with multiple, vertical layers in the canopy, and notable amount of tree mortality. With the No Action Alternative, the continuity of fuels and presence of ladder fuels puts this habitat at high risk for stand-replacing wildfire, as seen during the nearby June Fire in 2007. In the event of stand-replacing wildfire, suitability of American marten habitat would be diminished or lost, with recovery being long-term.

Under the Proposed Action Alternative, fuels reduction treatment would degrade the quality of 41 acres of suitable resting and denning habitat in units DZ-07, A-01, DZ-08 and DZ-09, though the habitat may remain suitable for foraging and travel. This represents a reduction of habitat quality over approximately 0.9 percent of the available suitable habitat in the project planning area. The reduction in habitat quality with proposed fuels reduction actions would have only minor or negligible effects on American marten, since 99.1 percent of suitable habitat would remain unmanaged. Fuels reduction actions would have indirect beneficial effect on American

marten habitat by protecting the large contiguous blocks of unmanaged suitable habitat from human-caused fires originating in areas of urban development.

Individual martens may be disturbed by noise associated with fuels reduction activities, which could cause individuals to temporarily vacate the area. This perturbation would be minor and of short duration because displaced individuals would be able to reoccupy a site shortly after activities ceased. Project implementation may indirectly affect martens through decreased prey availability, because removal of coarse woody debris may result in reduction of small rodents who use logs as habitat. As no martens are currently known to den within or near the project area, there would be no impact during the species reproductive period. Based on the above analysis of effects, the wildlife biologist's determination is the proposed action may impact individuals, but would not lead toward federal listing or a loss of viability for American marten (Perloff and Sims 2011).

There are six management indicator species (MIS) for habitat located in the project area which would be directly or indirectly affected by proposed activities: greater sage-grouse for sagebrush habitat; mountain quail for mid seral coniferous forest habitat; California spotted owl, American marten and northern flying squirrel for late seral, closed canopy coniferous forest habitat; and aquatic macroinvertebrates for lacustrine or riverine habitat. Impacts of the Proposed Action on sage-grouse and their habitat are analyzed in the Effects Relative to Issues section, and will not be reiterated here. Effects to American marten and their habitat are displayed in preceding paragraphs, and will not be recounted here. California spotted owl does not occur in the project area, and therefore will not be analyzed here. Impacts of the Proposed Action on mountain quail, northern flying squirrel, aquatic macroinvertebrates and their habitats are evaluated in the following paragraphs.

Mountain quail serve as the MIS for early and mid seral coniferous forest habitat. There are approximately 3,306,873 acres of early and mid seral coniferous forest on NFS lands in the Sierra Nevada bioregional area, with 28,630 acres of this habitat within the project planning area (i.e. Mono Basin). Approximately 756 acres of early and mid seral coniferous habitat are found in the six forest thinning units (T-01 through T-07).

Over the past two decades, the trend for early seral coniferous forest habit is decreasing from 9 percent to 5 percent of the acres on NFS lands in the Sierra Nevada bioregion. During this same time, the trend for mid seral coniferous forest habitat is increasing from 21 to 25 percent of NFS lands in the bioregion.

Under existing conditions, monitoring conducted by Point Reyes Bird Observatory (PRBO) during 2009 and 2010 found mountain quail distributed across all 10 National Forests located in the Sierra Nevada bioregion. PRBO findings suggest the mountain quail population distribution to be stable across the bioregional area.

With the No Action Alternative, the continuity of fuels and presence of ladder fuels puts this habitat at high risk for impact from stand-replacing wildfire. In the event of stand-replacing wildfire, early and mid seral coniferous forest habitat would be reduced, with recovery being long-term.

Under the Proposed Action, canopy closures would be reduced by up to 20 percent on approximately 680 acres within the six forest thinning units (i.e. 90 percent of area in the units would be thinned and 10 percent unthinned). This represents approximately 2 percent of the available habitat within the project planning area, and only 0.02 percent at the bioregional scale. This would be a short-term effect, because reduced tree competition would allow residual trees to grow more rapidly, and thus return canopy closure to pre-treatment levels within a decade.

Overall, there would be no change in the acreage of early and mid-seral coniferous forest after proposed thinning occurs, because the affected area would continue to function as this habitat type. The proposed actions would not alter existing trend for early and mid seral coniferous forest habitat, nor would it lead to change in distribution of mountain quail across the Sierra Nevada bioregion.

Northern flying squirrels serve as the MIS for late seral closed canopy coniferous forest habitat. Approximately 1,006,923 acres of late seral closed canopy coniferous forest exist on NFS lands in the Sierra Nevada bioregional area, with 4,129 acres of this habitat within the project planning area (i.e. Mono Basin). Approximately 158 acres of late seral closed canopy coniferous forest occur as patches within proposed treatment units DZ-07 through DZ-10, DZ-12 and T-01. Over the past two decades, the trend for late seral closed canopy coniferous forest habit is increasing from 7 to 9 percent of NFS lands in the Sierra Nevada bioregion. The trend for this habitat has been stable since the early 2000s. Under existing conditions, various monitoring surveys indicate the northern flying squirrel is present across the bioregion and distribution of the population is stable.

With the No Action Alternative, the continuity of fuels and presence of ladder fuels puts this habitat at high risk for impact from stand-replacing wildfire. In the event of stand-replacing wildfire, late seral closed canopy coniferous forest habitat would be reduced, with recovery being long-term.

Under the Proposed Action, canopy closure would be reduced on approximately 142 acres of late seral closed canopy coniferous forest within parts of proposed treatment units DZ-07 through DZ-10, DZ-12 and T-01. This would be a minor effect, because larger diameter trees with the largest-size canopies would be retained. The affected acreage represents approximately 3 percent of the available habitat within the project planning area, and less than 0.02 percent at the bioregional scale. Down log density would decrease with understory burning on 28 acres in proposed treatment unit T-01. The acreage affected represents approximately 0.7 percent of available habitat in the project planning area (Mono Basin), and less than 0.003 percent with the bioregion. Reduction in snag density would be negligible, as large diameter snags (i.e. greater than 24 inch dbh) would only be cut if posing safety hazard.

Overall, there would be no change in the acreage of late seral closed canopy coniferous forest after proposed thinning occurs, because the affected area would continue to function as this habitat type. The proposed actions would not alter existing trend for late seral closed canopy coniferous forest habitat, nor would it lead to change in distribution of northern flying squirrel across the Sierra Nevada bioregion.

Aquatic macroinvertebrates serve as the MIS for lacustrine & riverine habitats. Aquatic macroinvertebrates are large insects which reside in habitats associated with water, such as streams or lakes. There are approximately 14.7 miles of lacustrine (lakeshore) habitat at June, Gull and Silver Lakes. These lakes have shores with sandy margins, which provide poor structure for macroinvertebrate habitat. There are approximately 16 miles of riverine (stream) habitat within the June Loop Fuels project area boundary.

Proposed treatment units DZ-03 through DZ-05 and DZ-10 through DZ-13 are adjacent to approximately 3.2 miles of lakeshore, which represents 22 percent of the lacustrine habitat at June, Gull and Silver Lakes. Proposed treatment units DZ-03, DZ-07 through DZ-10, DZ-12 and A-01 encompass approximately 2 miles of stream, which represents 12.5 percent of riverine habitat within the project area.

Under existing conditions, these habitats are heavily impacted by increased levels of fine sediment within streams and lakes in the project area. Impacts of increased sedimentation result from ground disturbance caused by recreational use such as boating, fishing and swimming or wading, in addition to developments such as docks, marinas and other recreation facilities. Above normal sediment has impaired macroinvertebrate species abundance and density of macroinvertebrate assemblages.

At the Sierra Nevada bioregional scale, watershed conditions were rated for biotic integrity based on distribution and abundance of native fish and amphibians, plus extent of disturbance such as roads, diversions, etc. These data show 7 percent of watersheds to be in excellent condition, 36 percent in good condition, 47 percent fair condition, and 9 percent poor. Monitoring of aquatic macroinvertebrate populations during 2009 and 2010 found 46 percent surveyed streams to be impaired, while 54 percent were not. Current date indicate status and trend to be stable for lacustrine and riverine habitats at the bioregional scale, as well as aquatic macroinvertebrate populations.

With the No Action Alternative, the continuity of fuels and presence of ladder fuels in adjacent terrestrial areas puts this habitat at high risk for impact from stand-replacing wildfire. In the event of stand-replacing wildfire, aquatic macroinvertebrate habitat would be severely degraded by post-fire accelerated erosion and sedimentation, with recovery being long-term.

Under the Proposed Action, fuels reduction treatments may cause minor, short-term increase in sediment within lacustrine and riverine habitat as a result of ground disturbance from equipment used for tree thinning. The effect on macroinvertebrates would be minimal, especially when compared to existing sediment impacts from recreational use and developments in these areas. Therefore, implementation of project actions would not alter the existing trend or status for lacustrine and riverine habitat, or aquatic macroinvertebrate populations.

Plants and Noxious Weeds

Impacts to plants are summarized from the Biological Evaluation/Assessments for Plants and Noxious Weed Risk Assessment, which are hereby incorporated by reference (Weis 2011a; Weis 2011b).

Plant species considered in this analysis were identified from 1) a list of threatened, endangered, and proposed species potentially occurring on the Inyo National Forest in Mono County, provided by the US Fish and Wildlife Service (USFWS 2011); 2) a list of endangered, threatened and sensitive species in the Forest Service Pacific Southwest Region (FSM 2672.11); and 3) the October 2006 Inyo National Forest Sensitive Plant List (FSM 2672.24).

Habitat requirement parameters for threatened, endangered, proposed, and sensitive (TEPS) plant species has been determined from a variety of sources, including: Inyo National Forest Sensitive Plant Field Guide (USFS 1994), California Native Plant Society Rare Plant Status Reports (USFS various dates), miscellaneous information contained in Forest sensitive plant files, and The Jepson Manual: higher plants of California (Hickman 1993).

An initial assessment of the project area was completed in June 2009. Maps, photos, and existing field records were reviewed. There is no potential habitat for any threatened, endangered, or proposed plant species within the project area, nor have any populations of any of these species been previously reported from the area.

Populations of Mono milk-vetch and Mono Lake lupine, both Region 5 Forest Service sensitive species, are known from the area near the June Lake store along Highway 158 where there would be some treatment around the developed area.

In addition, potential habitat exists in moist and shady areas for the sensitive subalpine fireweed (*Epilobium howellii*), or sensitive moonworts (*Botrychium* species other than *B.simplex*. No sensitive species were found in field surveys in 2010 in the Fern/Yost trailhead area, the most likely habitat for subalpine fireweed or moonwort species.

Mono milk-vetch and Mono Lake lupine: Under the No Action Alternative, the continuity of fuels and presence of ladder fuels puts habitat for these sensitive plant species at high risk for stand-replacing wildfire, as seen during the nearby June Fire in 2007 and Mono Fire in 2010. In general, these sensitive plant species may recover quickly following wildfire disturbance, depending on fire severity. For example, the Mono Lake lupine responds well to burning at low intensities, and has recovered vigorously from the 2007 June Fire adjacent to the project area. Response to more intense fire is unknown, but may be more damaging. In the event of stand-replacing wildfire, suitability of sensitive plant habitat may be diminished, depending on fire severity.

Under the Proposed Action Alternative, no treatment is proposed in the Mono milk-vetch population but it is approximately 0.1 mile away from the closest proposed treatment area near the June Lake store. The treatment would be limited to the area outside of the population, so there would be no effect to this species.

The population of Mono Lake lupine overlaps several proposed treatment types (i.e. approximately 78 acres within portions of units PF-01, DZ-14, DZ-15, T-04 and T-06). The lupine generally grows in the open pumice sand areas which do not provide much fuel for fires and would not require much shrub treatment in the mowing or pruning treatment areas. In general, the lupine responds well to burning at low intensities, and has recovered vigorously

from the 2007 June Fire adjacent to the project area. Response to more intense fire is unknown, but may be more damaging; therefore, a mitigation would be implemented which excludes pile burning from occupied habitat of Mono Lake lupine. The response to other treatment types is not specifically known, but it is expected that the opening of shrub canopy and some surface disturbance may improve habitat conditions for Mono Lake lupine. Some individual lupine plants may be burned, crushed, or mowed during the fuel reduction treatments, but those effects are expected to be of short duration and local in nature.

Based on the previous positive response to low to moderate intensity burning, no pile burning in occupied habitat, and opening up of shrub habitat, it is my determination that this project may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability for Mono Lake lupine.

Moonworts and subalpine fireweed: There are no recorded populations, and no sensitive plants were found in 2007 and 2009 surveys of potential habitat for sensitive moonwort species or subalpine fireweed in the project area. Therefore, there would be no impacts to these species from this project.

Based on the negative results of field surveys to locate these species in the treatment areas, the June Lake Loop fuels reduction project would have no effect on sensitive subalpine fireweed or moonwort species.

Based on the previous positive response to low to moderate intensity burning, no pile burning in occupied habitat, and opening up of shrub habitat, it is my determination that this project may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability for Mono Lake lupine.

Invasive Plant Species: A site specific inventory of invasive plant species is available for the project planning area. Seven invasive plant species are known to exist in areas proposed for fuels reduction treatments, including cheatgrass, tansy mustard, knotweed, Russian thistle, bouncing bet, dandelion and woolly mullein. Design features are incorporated into the Proposed Action to prevent introduction of new weeds, and to contain existing weeds, particularly bouncing bet and cheatgrass which are high priority.

Under the No Action Alternative, the continuity of fuels and presence of ladder fuels creates high risk for stand-replacing wildfire, as seen during the nearby June Fire in 2007 and Mono Fire in 2010. In the event of stand-replacing wildfire, there would be high risk of invasive plant species spreading and proliferating within the burned area.

Under the Proposed Action Alternative, spread of existing weeds would be controlled by implementation of design features, such as flagging and avoiding equipment operations in areas where bouncing bet is currently found in proposed treatment unit DZ-12. New weed introduction would be avoided by design features, such as equipment cleaning measures.

Watershed and Riparian Areas

The following is summarized from the Hydrology and Soil Report, which is hereby incorporated by reference (Lutrick 2011).

The project area is located within three sub-watersheds (HUC6), which are all municipal watersheds. The City of Los Angeles diverts water for municipal use downstream of the project area, while the June Lake Public Utility District uses water within the project area. There are 16 miles of natural streams, and 3 miles of man-made water conveyances (i.e. ditches or canals) within the project area. Three large, natural lakes and one man-made reservoir occur in the project area. Riparian areas are found in the zone bordering the length of streams or margins of lakes. Data from past monitoring shows water quality is good in the project area (Mono County 2007). A minor portion of the project is located in Walker Creek-Rush Creek HUC6 sub-watershed. The majority of the project area is located within two HUC6 sub-watersheds: Mono Craters Tunnel and Grant Lake-Rush Creek.

Walker Creek-Rush Creek HUC6 watershed is dry, with no natural streams, springs or lakes. However, there is one man-made water conveyance structure, with a 500-foot length of ditch crossing the northern portion of unit PF-01 in this watershed. Mono Craters Tunnel HUC6 watershed also contains no natural streams. Therefore, proposed fuels reduction activities in these two watersheds have no potential to affect surface water quality: this includes units PF-01, T-01, T-02, T-04 through T-07, DZ-14 through DZ-16, and A-02.

Grant Lake-Rush Creek HUC6 watershed contains proposed fuels reduction treatment units with potential to affect the following surface water features:

- Project units DZ-03, DZ-07 through DZ-10, DZ-12 and A-01 contain 1.2 miles of intermittent and 0.8 miles of perennial streams, in addition to 0.4 miles of manmade ditches.
- Project units DZ-01 through DZ-05 and DZ-10 through DZ-13 are adjacent to Silver Lake, Gull Lake, June Lake, and Grant Lake reservoir.
- Five wetlands, ranging in size from approximately 0.07 to 1.5 acres and covering 2.6 total acres, are located within proposed treatment units DZ-06, DZ-07 and A-01. Typically these wetlands contain meadow and/or willow vegetation, where no tree thinning or shrub removal would occur under the Proposed Action. However, the largest wetland, which is located in proposed treatment unit A-01, supports an herbaceous understory with an overstory of lodgepole pine. This lodgepole pine stand has numerous dead trees under existing conditions (refer to photo in Appendix B). Thinning of conifers would occur within this wetland in unit A-01.

With the No Action Alternative, there would be no direct effects to hydrology or watershed geomorphology in the short-term. However, there would be a higher risk of a stand replacing wildfire over the long-term. In the case of such a fire, there would be profound and possibly long-term effects to hydrology and geomorphology, depending on the fire severity and location. If the fire burned in riparian areas, streambanks would be destabilized through removal of vegetation. Sediment would also deposit in lakes and reservoirs. Streamflows would increase if a large portion of any watershed is burned. In some areas, streams would likely either incise or have large inputs of sediment, which could change aquatic habitat or alter channel location. In addition, the current trend for accelerated accumulation of large woody debris would continue, creating a denser mat of large woody debris in channels. Eventually, this accumulation could be large enough to alter stream flow patterns. This could be a natural process, but it is likely that the

current levels of in-channel woody debris are greater than would have occurred without fire suppression, and are not necessary for maintenance of these ecosystems. With a higher risk of stand-replacing wildfire, in some areas there is so much large woody debris in-channel that this biomass might carry fire itself. This would remove all woody debris for awhile; then there would be a large influx over a short period of time as fire-killed trees fell over in the years after the fire. There would be great changes in woody debris over time, altering aquatic and riparian habitat quickly and profoundly.

With the Proposed Action, BMPs and design features have been incorporated to protect soil and water quality, as well as aquatic and riparian ecosystems. BMPs and design features would be implemented to prevent or minimize impacts, as follows:

- Minimal impact to geomorphic integrity of wetlands and streambanks because soil rutting, soil compaction or loss of vegetation would be prevented by using decking for equipment operations in wet soils and temporary bridges for stream crossings;
- No measurable change in streamflow because evapotranspiration would continue with residual vegetation;
- No change in hydrologic connectivity because temporary bridges would be removed before winter or if floods predicted; therefore, no effect on stream flow and movement of aquatic species;
- Tree thinning may reduce the number of trees that fall into streams; however, the reduction would not negatively impact aquatic or riparian habitat because there is a current surplus of down wood in streams within the project area;
- Soil porosity would not be detrimentally impacted because equipment would be limited to operating in upland sites when soils are dry to at least 6 inch depth;
- Soil cover, displacement and erosion would not be detrimentally impacted because equipment would be limited to operating on slopes than 30 percent gradient, or 20 percent gradient where soils have a surface layer of pumice (i.e. units T-06 and T-07); in addition, loss of soil cover would be limited in extent because prescribed burning would affect no more than 30 percent of the area in unit PF-01 and pile burning would impact no more than 10 percent of the area within other treatment units;
- Soil and water chemistry would not be detrimentally impacted with application of Sporax because the chemical would be applied in limited quantity to stumps only; the primary chemical constituent is borax which is active in the soil and readily absorbed as a plant nutrient.

With implementation of BMPs and design criteria, the Proposed Action would have only minor, local, short-term effects to water quality, hydrology, stream morphology and soil productivity. These effects would be limited to possible decrease in soil cover and increase in compaction that could cause minor increases in erosion, as well as some soil disturbance near water that could cause very minor increases in sedimentation. These effects would be of low intensity and short-term, and would not affect any of the streams' beneficial uses within the project area. The project area contains wetlands and riparian areas, and a small area would be within the 100-year floodplain of small perennial streams. However, the project would not affect the hydrologic functioning of any wetlands and would not alter any flooding processes. All effects would be within Federal, State or local standards and would meet all applicable laws pertaining to water quality, hydrology, stream morphology and soil quality.

Air Quality

Impacts to air quality are summarized from the Air Quality Analysis, which is hereby incorporated by reference (Lutrick 2011).

The project area is located within the "non-attainment" area of Mono Lake for PM_{10} (i.e. particulate matter with a diameter less than 10 microns that can cause harm to human health). Non-attainment indicates the Mono Basin area currently does not fully conform to Federal and State ambient air quality standards for PM_{10}. The main source of PM_{10} in Mono County and primary reason that the area is in non-attainment is blowing dust from the dry shorelines of Mono Lake, where water levels have dropped due to diversions (Great Basin Unified Air Pollution Control District, GBUAPCD 1995).

The federal 24-hour ambient air quality standard for PM_{10} is 150 micrograms per cubic meter ($\mu g/m^3$) and the California 24-hour ambient air quality standard for PM_{10} is $50 \mu g/m^3$ (California Air Resources Board 2011). In order to meet these ambient air quality standards in the Mono Basin, the GBUAPCD has a guideline that no burning project may exceed daily emissions of more than 10 tons of PM_{10} per day in the Mono Basin (GBUAPCD 2001).

This air quality analysis will focus on PM_{10} because it is the pollutant of concern in the project area, and it is the pollutant of concern relating to smoke production. This project area is on the western boundary of the non-attainment area, and is in a somewhat separate basin, and therefore it is possible that air quality in the June Loop area is not the same as within the Mono Basin itself on any given day.

Currently, there is dense sagebrush in the area of unit PF-01, and dense timber stands throughout most of the rest of the project area. With the No Action Alternative, there is high risk of a stand-replacing wildfire. If such a wildfire occurred in this area, it could burn intensely, over a large area. This could pose not only a safety issue for local residents due to fire, but also due to the large amounts of smoke that would be produced. In case of an uncontrolled wildfire, it is likely that PM_{10} standards would be exceeded with thick smoke.

Under the Proposed Action, implementation of all proposed prescribed burning activities would produce 175 tons of PM_{10}, during the expected 10-year life of the project. With 10 percent of the project burning completed during each of the 10 years and a range of 5 to 15 percent, the estimated annual PM_{10} emissions from burning would be 17.5 tons, with a range from 9-26 tons. Burning would take place over at least 2-3 days each year; therefore, the 10-ton daily PM_{10} emissions standards would be met, which serves as the proxy for compliance with Federal and State ambient air quality standards.

Prescribed fire operations would be conducted when meteorological conditions favor smoke dispersal away from smoke sensitive areas, such as the Ansel Adams Wilderness Class 1 airshed, and the communities of June Lake or Lee Vining. With implementation of this design criteria, there would be minimal smoke impact to the Ansel Adams Wilderness Class 1 airshed and the community of June Lake because smoke would be carried away from these sensitive areas. However, if meteorological conditions change while smoldering persists, smoke from prescribed burning could potentially create a nuisance to the residents or contribute haze to the Class 1

airshed. If this occurred, the impact would be of short duration, likely lasting only a few hours to a day or two. Because the prescribed burning would be conducted and total smoke emissions partitioned over 10 years, it is unlikely that there would be major smoke effects to smoke sensitive areas.

Cultural Resources

Effects to cultural resources are summarized from the Cultural Resource Report, which is hereby incorporated by reference (Kerwin 2011).

Cultural resource studies and field surveys have been completed for all areas potentially affected by proposed fuels reduction activities within the June Loop Hazardous Fuels Reduction Project area, including:

- Forty-four surveys and assessments have been completed within a one-half mile radius of proposed treatment units, since 1975 to present day as a result of prior Federal undertakings;
- An intensive Cultural Resource inventory of 1,995 acres proposed for fuels treatment was completed under contract during summer 2010;
- Inyo National Forest (INF) conducted a cultural resource inventory on an additional 1,345 acres throughout the proposed project area, also in 2010.

As a result of these field evaluations, numerous cultural sites have been identified within the proposed project boundary. The dominant archaeological elements of this landscape are sparse obsidian stone flake scatters, prehistoric habitation sites, and historic era resources. The obsidian workshops are known to have been associated with the Casa Diablo complex of obsidian outcrops and to a lesser degree, Mono Crater obsidian, which were procurement sources for toolstone quality obsidian that supplied portions of California for approximately seven thousand years. Historical resources are associated with hydroelectric power utility development, recreation and to a lesser degree, mining. Hydroelectric power facilities and associated historic era and contemporary transmission lines are present throughout the project area. Recreation development on INF Lands is evidenced by the presence of lodges, recreation residence tracts and numerous campgrounds within the proposed project area.

Under existing conditions, there is high risk of stand-replacing wildfire. With the No Action Alternative, there would be no direct effect on cultural resources, however; indirect effects could result in adverse impacts to cultural resources during high intensity wildfire. With wildfire, severe burning has potential to affect cultural resources via spalling or cracking of rock features, loss of important obsidian hydration data, and complete loss of organic wood features and artifacts associated with human habitation within the project area. With impacts to cultural resources, valuable research data utilized to address regional prehistoric land-use patterns, with an emphasis on chronology and mobility, may be lost. In addition, suppression of wildland fire has potential to affect or destroy cultural resources with disturbance from use of heavy equipment and hand crews for control line construction, and back-firing for fire breaks.

Under the Proposed Action, fuels reduction treatment methods would be designed with Standard Resource Protection Measures (SRPMs) for all cultural resources, including flagging and avoiding of sites, and non-mechanical, manual handwork to remove fuels within site boundaries.

The Fuels Archaeologist would determine the site-specific protection measures to be implemented within proposed treatment units where cultural resources are present. These measures would be incorporated into project design through consultation with the project Archaeologist prior to implementation. The site-specific measures are not disclosed in the description of proposed project activities or on any project maps, because of the confidentiality of cultural resource site location information. Implementation of site-specific SRPMs would ensure that there are no adverse effects to cultural resources listed in or eligible for listing in the National Register of Historic Places, and would ensure that there would be no loss or destruction of cultural or historic resources.

The Proposed Action would reduce the risk of damage to cultural resources from high intensity wildland fire. This would likely preserve the reliability of data and interpretive information associated with historic era and prehistoric habitation located throughout the proposed project area.

(2) The degree to which the proposed action affects public health or safety.

Proposed fuels reduction treatments are designed to decrease the intensity of future wildland fires and the risk of crown fire in treated areas. These types of fuels reduction treatments have been documented as effective in decreasing severity of wildfires and modifying fire behavior so that crown fires were not sustained within treated areas during actual wildland fires (Safford et al. 2009; Graham et al. 2009; Prichard et al. 2010). Thus, there would be improved public and firefighter safety, as the treatments are intended to slow the rate of fire spread, reduce fire intensity and modify fire behavior so that crown fire would not be sustained in treated areas. This would increase the chances that fire suppression forces could safely and effectively make a stand to control the wildfire. Smoke and air quality effects have been minimized using design features to ensure dissipation and transport of the smoke away from populated areas, and by design of the burning to comply with GBUAPCD guidelines for daily PM_{10} emissions (see analysis on pg. 33). Implementation of the Proposed Action would be governed by standard public health and safety contract clauses, when work would be completed under contract.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas within the project area. The project area is located completely outside of designated wilderness, as well as Inventoried Roadless Areas. There are wetlands, and the effects to those features are analyzed under beneficial and adverse effects above (pg. 33). Analysis in the Cultural Resources report found there would be no adverse effects to historic and cultural resources (pg. 34).

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The proposed project follows the management direction in the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the 2004 Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004). Potential adverse effects have been minimized to the point where there are few effects to draw controversy. Public involvement efforts did not reveal any significant controversies regarding environmental effects of this proposal. Based on comments from the public and the analysis of effects by an

Interdisciplinary Team of Forest Service, there are no significant effects expected to the quality of the human environment from implementing the proposed action alternative.

(5) Degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

Local expertise in implementation of these types of projects minimizes the chance of highly uncertain effects or effects which involve unique or unknown risks. Proposed activities are routine in nature, employing standard practices and protection measures, and their effects are generally well known.

The Proposed Action Alternative is highly similar to recent decisions rendered on the Inyo National Forest for vegetation management actions with the Railroad Compartment EA (1993), the SCALP EA (1996), and the JPFHFR EA (2007). The Railroad Compartment EA covered approximately 2,400 acres, the SCALP EA covered approximately 14,000 acres, and the JPFHFR EA covered approximately 4,200 acres. Additional individual stands in the Tunnel, Sand, and Rust Compartments were also treated similarly, for a combined total of approximately 1,500 acres. In all these stands where tree thinning, slash treatment, and underburning have been completed, conditions for tree growth and development, and resilience to wildland fire and insects/diseases are improved. All stands are moving closer toward the desired condition described in the SNFPA-FSEIS (Johnson 2011).

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The June Loop Hazardous Fuels Reduction project represents a site-specific project that does not set precedence for future decisions with significant effects or present a decision in principle about future considerations. Any future decisions would require a site-specific analysis to consider all relevant scientific and site-specific information available at that time.

These activities are in accordance with the best available science to manage fuels and fire behavior at this time. These types of fuels reduction treatments have been documented as effective in decreasing severity of wildfires and modifying fire behavior so that crown fires were not sustained within treated areas during actual wildland fires (Safford et al. 2009; Graham et al. 2009; Prichard et al. 2010).

(7) Whether this action is related to other actions with individually insignificant but cumulatively significant impacts

A cumulative effect is the consequence on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the actions occur. A cumulative effects analysis was completed for each resource area. None of the resource specialists found the potential for significant adverse cumulative effects (Johnson 2011; Lutrick 2011a; Lutrick 2011b; Kerwin 2011; Murphy 2011; Perloff 2011; Perloff and Sims 2011; Weis 2011a; Weis 2011b).

Wildlife

The following discussion of cumulative impacts is derived from analysis in the Mule Deer Report, Biological Evaluation/Assessments (BE/BA), Management Indicator Species Report,

and Neotropical Migratory Bird Report which are hereby incorporated by reference (Perloff 2011; Perloff and Sims 2011). The cumulative effects area for wildlife includes population or habitat units defined for each species. If not otherwise specified, the Mono Basin watershed was the area considered for assessment of cumulative effects on wildlife.

Mule Deer: Past and present effects to mule deer include historic grazing within deer habitat; loss or creation of habitat by wildfire; loss of hiding and thermal cover from timber and fuels projects, along with an increase in forage; urban expansion; and a general increase in noise and sight disturbance from recreational activities such as hunting, camping and pleasure driving, including all forms of motor vehicle use. Deer mortality from collisions with vehicles is expected to continue on high-speed paved routes such as US395. Between 1965 and 2001, deer mortality on a 40 mile stretch of US395 ranged from 5 – 56 deaths per year (EMA 2003). Bleich et al. (2006) reported that road-kills accounted for 27 percent of deer mortality investigated during their study in Round Valley.

Wildfire can remove both cover and forage for mule deer. Contemporary fires (since 2000) have generally been relatively small or have only consumed small amounts of shrub-steppe vegetation in the Mono Basin. During this period, approximately 6,350 acres of shrub-steppe vegetation has burned. The burned areas continue to provide suitable foraging habitat for mule deer. The potential for a large, landscape scale wildfire exists, however these events are stochastic and it is not possible to predict when such an incident may occur.

Habitat burned by wildfire does not necessarily become unsuitable for mule deer, but may change from hiding or thermal cover to foraging habitat. In other cases, when invasive plant species colonize the site post-fire, habitat quality is reduced. Only when a complete type conversion (e.g., sagebrush/bitterbrush to cheat grass) occurs would the habitat become unsuitable. Type conversion or rapid spread of weeds in burned areas is not currently occurring in the Mono Basin (Weis 2011b).

Some level of timber harvest has occurred, primarily to the south and east of the project area. Prior to the early 1990s harvest methods included overstory removal, small clearcuts, pre-commercial and commercial thins. Beginning in the early 1990s, the Forest discontinued the cutting of large old trees and began a program of "old-growth" restoration. Since that time timber harvest has consisted of thinning from below or removing the smallest diameter trees sequentially until a desired basal area and spacing was reached. Cut trees were sold as firewood or left on site for the public to collect. Most areas were subsequently treated with prescribed fire.

Since 1994 approximately 9,265 acres have been treated in this manner. Historic clearcuts effectively converted cover to foraging habitat, until such time as reforestation efforts were successful. Thinning from below reduced the quality of both thermal and hiding cover. Recent thinning operations (since 1996) included design criteria to retain patches of cover throughout areas that received high use by mule deer. No additional timber harvest or fuels reduction projects are reasonably foreseeable within the Mono Basin.

Sage-grouse: The Mono Basin as a whole contains approximately 199,344 acres of sage-grouse habitat. The Bi-State Conservation Plan identifies a variety of factors that pose potential risks to

sage-grouse within the South Mono PMU. These include pinyon-juniper encroachment, urbanization/changing land use, fences/transmission lines, recreational activities, predation, sport hunting, poaching, sagebrush habitat condition, and mining/geothermal/energy development.

Pinyon-juniper encroachment is not occurring on sage-grouse habitat in the project area. Urbanization is largely restricted to the private land areas along SR 158, and within the small community of Lee Vining. Three small private land parcels immediately north of unit PF-01 have been modified to accommodate water diversions at the Grant Lake Dam and Mono Gate 1 facility and a sewage treatment facility. These three parcels total approximately 32 acres. Fences are not prevalent, as the majority of livestock grazing in the vicinity of the project was by sheep. Currently, livestock grazing is not authorized on NFS lands within the project area. An overhead transmission line runs roughly parallel to Highway 395, traversing approximately 3.5 miles of unit PF-01. Poles for above ground utility lines provide perches for avian predators (Ellis 1984, 1987) and may cause sage-grouse to avoid the immediate area where they are placed. Utility lines may also cause direct mortality if flying sage-grouse strike the wires (Call and Maser 1985). To date, no utility wire strikes have been documented in the South Mono PMU. Recreational activities are mostly absent in the vicinity of unit PF-01; restricted to motor vehicle use of un-improved roads and fishing and camping at Grant Lake.

Predation on sage-grouse is a threat to the population that is affected by many conditions including availability of other prey species, habitat condition, and climate. The range and size of predator populations can be expanded by human activities such as road and fence construction, landfills, and housing development. Predator densities can also increase with the number and availability of prey species. However, predation pressure may vary unpredictably with predator density. Lands in the vicinity of unit PF-01 are generally un-developed and do not provide areas that would attract predators or provide a source population of feral cats and dogs. A 40 acre landfill that services the communities of June Lake and Lee Vining is located approximately 3 miles north east of the project area. The landfill likely attracts ravens and coyotes, both of which are known to prey on grouse and decrease nesting productivity (Coates and Delehanty 2010).

Sport hunting is the physical act of removing individual birds from the population during a regulated season and by regulated methods of take (shotgun, archery, falconry). However, hunting seasons are only scheduled when specific population criteria are met. Sport hunting of sage-grouse occurs within the South Mono PMU within a designated hunting zone called the South Mono/Inyo Hunt Zone. In the Bodie PMU hunting is allowed in the North Mono Hunt Zone. Quota numbers for the two zones are relatively conservative, with 25 permits issued for the north zone and 35 for the south zone during the 2010-2011 season (CDFG 2010). The June Loop project area lies between the two hunt zones. Any harvest within the project area would be illegal. There are no recent accounts of sage-grouse poaching within the South Mono PMU.

West Nile Virus (WNv) has emerged as a potential threat to greater sage-grouse since 2002 (Naugle et al. 2004, USDI Fish and Wildlife Service 2008, Walker and Naugle 2009). West Nile virus was introduced into the northeastern United States in 1999 and has subsequently spread across North America (Marra et al. 2004). West Nile virus has been identified as a cause of sage-grouse mortality in the Bodie PMU (Casazza et al 2005). Greater sage-grouse are considered to have a high susceptibility to WNv, with resultant high levels of mortality (McLean 2006). The virus persists largely within a mosquito-bird-mosquito infection cycle; however

direct bird to bird transmission of the virus has been documented in several species including the greater sage-grouse. West Nile virus can simultaneously reduce juvenile, yearling and adult survival, all of which are vital for population growth.

In sagebrush habitats, WNv is primarily regulated by environmental factors, including temperature, precipitation and distribution of anthropogenic water sources that support the mosquito vectors (Reisen et al. 2006). Cold ambient temperatures preclude mosquito activity and virus amplification, so transmission to sage-grouse is limited to the summer (mid-May to mid-September) (Naugle et al. 2005). The proposed project does not include any activities that would result in standing water and would not incrementally increase the probability of contact with WNv.

Although not identified in the Bi-State Plan, landscape scale wildfires may pose the greatest long-term risk to maintenance of sage-grouse populations. Fire tends to kill mature sagebrush plants. Re-establishment of sagebrush stands may take up to 15 years or more post-fire. In some portions of burned areas such as south facing slopes, cheat grass may rapidly expand and dominate such sites after wildfire. The resulting mono-culture of annual brome is substantially less suitable for sage-grouse. The presence of cheat grass may lead to an altered fire regime and exacerbate the occurrence of landscape fires.

Conversely, wildfire is necessary in smaller patch sizes for maintenance of the shrub-steppe community. Wildfire serves to regenerate decadent brush, create seral diversity and promote growth of grasses and forbs. The majority of known winter use by sage-grouse east of the project area for example is centered in an historic wildfire that burned in 1985.

Contemporary fires (since 1955) have generally been relatively small or have only consumed small amounts of sagebrush vegetation in the vicinity of the project area. During this period, approximately 10,400 acres of shrub-steppe vegetation has burned in the Mono Basin. This represents approximately 5.2 percent of the total available habitat within the basin. The proposed action includes burning a maximum of 932 additional acres of sagebrush shrub. This would represent a cumulative total of 5.7 percent of the habitat within the Mono Basin. The mosaic burn pattern identified in the proposed action is designed to reduce the spread of wildfire by creating strategically placed areas without fuel. The intent is to reduce the likelihood of a landscape scale wildfire. The potential for a large, landscape scale wildfire still exists, however these events are stochastic and it is not possible to predict when such an incident may occur.

Based on the above assessment of direct, indirect and cumulative effects, the wildlife biologist's determination is that project implementation **may impact individual greater sage-grouse but would not result in a trend towards Federal listing or loss of viability within the planning area.** This determination is based upon the following:

1. The proposed treatments would occur in an area not currently occupied by sage-grouse;
2. The treatments would likely have a beneficial effect on habitat quality;
3. An adaptive management strategy would allow the project to be modified if desired results are not realized, and;

4. The timing of implementation is such that grouse would not be disturbed during critical breeding/nesting periods if present

Neotropical Migratory Birds: For neotropical migratory birds (NTMB) and habitat, the cumulative effects analysis area (CEAA) is defined as the four HUC-6 watersheds (June Lake, Punch Bowl, Gem Lake and Rush Creek) adjacent to the project area. These four watersheds cover 88,753 acres. The CEAA currently contains approximately 19,781 acres of coniferous forest habitat and 36,667 acres of shrub habitats similar to that which would be treated under the proposed action.

Past management actions and natural disturbances have affected NTMB habitat within the CEAA, including the following:

- Vegetation management activities, primarily tree thinning with slash disposal through prescribed burning on 2,189 acres of coniferous forest habitat from 1987 to the present;
- Urban development on approximately 875 acres, which includes homes, businesses, recreation sites, utility distribution systems, etc.;
- Wildfire burned 2,108 acres from 1987 to the present.

Past management activities and natural disturbances altered the structure and composition of NTMB habitat by removing vegetation which served as nesting substrate and cover. NTMB habitat quality may have been reduced by these effects when activities occurred; however, there is ongoing habitat recovery with passage of time through re-growth of vegetation. Thus, the habitat generally remains suitable for use by neotropical migratory birds with one exception: in 2010, the Mono Fire burned approximately 1,112 acres within the CEAA. Virtually all of the burned area supported a sagebrush-steppe vegetation type prior to the fire. At present, most of the Mono Fire area is devoid of shrubs and provides little habitat for migratory landbirds. Thus, the Mono Fire area is currently unsuitable habitat for migratory landbirds.

Proposed and reasonably foreseeable future vegetation management actions within the CEAA include the following:

- The Proposed Action for June Loop Hazardous Fuels Reduction project would thin trees and dispose of slash by prescribed burning in 1,130 acres of coniferous forest habitat, and would prescribed burn 930 acres of sagebrush-steppe habitat;
- The Proposed Action for June Mountain Ski Area Vegetation Management Planning project would thin trees and dispose of slash by prescribed burning in 1,157 acres of coniferous forest habitat;
- Mono Fire restoration actions will be completed in 2011, by planting approximately 200 acres with native seeds including sagebrush, bitterbrush and grasses to enhance the rate of habitat recovery.

Direct and indirect habitat effects of proposed and future vegetation management actions are expected to be similar in nature to past activities: vegetation would be removed through fuels reduction projects. Proposed and future actions are designed to minimize loss of important habitat elements. Specifically, design features are included for retention of snags and downed logs. Thus, a slight reduction in habitat quality is expected through removal of perching and nesting substrate, but all treated areas would continue to provide habitat for migratory birds.

Vegetation removal and other uses of National Forest System lands may also disturb migratory landbirds causing a variety of responses including flight, avoidance or abandonment of areas within suitable habitat. Proposed and future actions are designed to minimize disturbance of migratory landbirds. Specifically, limited operating periods are identified to reduce potential disturbance during important breeding periods. As a result, present and future projects may affect individual birds, but not to a degree that population viability is threatened.

In summary, reasonably foreseeable projects are expected to affect 2,287 acres or 6.3 percent of coniferous forest habitat in the CEAA. Approximately 2,042 acres of sagebrush-steppe vegetation has or would be modified. This represents 2.3 percent of this habitat type within the CEAA. As these combined disturbances represent a small percentage of available coniferous forest and sagebrush-steppe vegetation, this reduction in habitat quality is not expected to alter distribution or viability of migratory birds within the planning area.

Northern Goshawk: On-going activities in and adjacent to suitable goshawk habitat in the analysis area include the occupancy of the community of June Lake, operation of June Mountain Ski Area, several developed campgrounds and motorized vehicle use of SR158. Cumulatively, these activities are not expected to lead to excessive disturbance of goshawks. Between 2003 and 2008 a pilot fuels treatment project was implemented in close proximity to the proposed treatment units. This project affected an additional 145 acres of potential goshawk foraging habitat. June Mountain Ski Area is currently experiencing substantial mortality in white bark pine stands. The Inyo National Forest is proposing additional fuels reduction work in the mortality zones to protect ski area facilities. It is unknown how many acres would be treated within the ski area, however the cumulative total would likely be less than 3 percent of the total available for northern goshawks.

Based on the above assessment of direct, indirect and cumulative effects, the wildlife biologist's determination is that project implementation **may impact individual northern goshawks, but would not result in a trend towards Federal listing or loss of viability within the project area.** This determination is based upon the following:

1. No goshawks are known to nest within or near the project boundaries.
2. After treatment, habitat would remain suitable for goshawk foraging activities.
3. Any disturbance of individuals would be of short duration.
4. A large area of suitable habitat would be protected from wildfires originating on private land.

Bald Eagle: Other on-going activities in and adjacent to suitable bald eagle habitat in the analysis area include the occupancy of the community of June Lake, operation of June Mountain Ski Area, several developed campgrounds and motorized vehicle use of SR158 and area lakes. Cumulatively, these activities are not expected to lead to excessive disturbance of bald eagle.

Based on the above assessment of direct, indirect and cumulative effects, the wildlife biologist's determination is that project implementation **may impact individual bald eagles but would not result in a trend towards Federal listing or loss of viability within the planning area.** This determination is based upon the following:

1. Primary habitat elements (large, old trees) required by eagles would not be affected by project implementation;
2. If eagle nesting is discovered near treatment units, a limited operating period would be implemented to defer operations until after juveniles are fledged.

American Marten: On-going activities in and adjacent to suitable marten habitat in the analysis area include the occupancy of the community of June Lake, operation of June Mountain Ski Area, several developed campgrounds and motorized vehicle use of SR158. Cumulatively, these activities are not expected to lead to excessive disturbance of American martens. Between 2003 and 2008 a pilot fuels treatment project was implemented in close proximity to the proposed treatment units. This project affected an additional 145 acres of potential marten foraging habitat. June Mountain Ski Area is currently experiencing substantial mortality in white bark pine stands at higher elevations. The Inyo National Forest is proposing additional fuels reduction work in the mortality zones to protect ski area facilities. It is unknown how many acres would be treated within the ski area, however the cumulative total would likely be less than 3 percent of the total available for American martens.

Based on the above assessment of direct, indirect and cumulative effects, the wildlife biologist's determination is that project implementation **may impact individual American martens but would not result in a trend towards Federal listing or loss of viability within the planning area**. This determination is based upon the following:

1. No martens have been detected in the project area.
2. Treatments would not occur during periods important for marten reproduction.
3. Martens in the analysis area occupy all coniferous forest types present, from managed Jeffrey pine at 2,300 m to subalpine conifer at 3,200 m and above.
4. Martens in the analysis area utilize forest stands that are "notably open" relative to habitat described in other areas.
5. The treated areas would still provide suitable foraging and travel habitat after project implementation.
6. Less than 1 percent of available suitable habitat in the analysis area would be treated.

Mountain Quail: The Mono Basin watershed contains approximately 28,630 acres of early and mid-seral coniferous forest habitat. The primary perturbations within this habitat type have been timber harvest/fuels treatment and wildfires.

The 1988 Inyo National Forest LRMP designated 29,697 acres within the Mono Basin watershed as prescription #10 (high-level timber management). Upon publication of the Record of Decision for the Sierra Nevada Forest Plan Amendment Project (USFS 2004) the area was reclassified as "general forest". Some level of timber harvest has historically occurred throughout this area. Prior to the early 1990s harvest methods included overstory removal, small clearcuts, pre-commercial and commercial thins. This likely increased the amount of early and mid-seral coniferous forest. Beginning in the early 1990s, the Forest discontinued the cutting of large old trees and began a program of "old-growth" restoration. Since that time timber harvest has consisted of thinning from below or removing the smallest diameter trees sequentially until a desired basal area and spacing was reached. Cut trees were sold as firewood or left on site for

the public to collect. Most areas were subsequently treated with prescribed fire. Since 1994 approximately 9,265 acres have been treated in this manner.

Historic fires have had only minor effects on early and mid-seral coniferous forest habitat. Since 1955, approximately 545 acres of this habitat type have been burned by wildfire. In many cases, the area continued to provide habitat for mountain quail.

Early and mid-seral coniferous habitat is well distributed across the Mono Basin. The proposed action would not remove any habitat or affect the CWHR tree size and therefore would not have cumulative impacts on the total amount or size of the available habitat. Canopy closure is expected to be reduced by up to 20% on up to 680 acres of quail habitat within the project area. This represents approximately 2 percent of the available habitat and is not expected to alter the existing trend within the planning area. The reduction in canopy closure would be a short-term effect, because reduced tree competition would allow residual trees to grow more rapidly, and thus return canopy closure to pre-treatment levels within a decade.

Northern Flying Squirrel: The Mono Basin watershed contains approximately 4,129 acres of late-seral closed canopy coniferous forest. The primary perturbation within this habitat type has been timber harvest/fuels treatment. Since 1955, no wildfires have burned in areas supporting this habitat type. Historic timber harvest dating back to the early 1900s likely reduced the amount of late-seral habitat to current levels. However, it is unlikely that all forested areas historically met the definition of a closed canopy forest. Even a mature stand of eastside pine is relatively open and patchy, with canopy closure often less than 40 percent.

The 1988 Inyo National Forest LRMP designated 28,626 acres within the Mono Basin watershed as prescription #10 (high-level timber management). Upon publication of the Record of Decision for the Sierra Nevada Forest Plan Amendment Project (USFS 2004) the area was reclassified as “general forest”. Some level of timber harvest has historically occurred throughout this area. Prior to the early 1990s harvest methods included overstory removal, small clearcuts, pre-commercial and commercial thins. This likely decreased the amount of late-seral closed canopy coniferous forest to some degree. Beginning in the early 1990s, the Forest discontinued the cutting of large old trees and began a program of “old-growth” restoration. Since that time timber harvest has consisted of thinning from below or removing the smallest diameter trees sequentially until a desired basal area and spacing was reached. Cut trees were sold as firewood or left on site for the public to collect. Most areas were subsequently treated with prescribed fire. Since 1994 approximately 9,265 acres have been treated in this manner.

The proposed action includes treatment within approximately 142 acres of late-seral closed canopy coniferous forest. This represents approximately 3 percent of this habitat type within the Mono Basin watershed. The mean tree size is likely to increase after treatment and canopy closure would only be decreased incrementally. Down log reduction may occur on up to 28 acres which represents 0.7 percent of the area currently supporting late-seral conditions and is not expected to alter the existing trend within the planning area.

Aquatic Macroinvertebrates: Ongoing activities that occur within the June Loop Hazardous Fuels Reduction project analysis area that may impact stream and lacustrine habitat include the

existence and use of roads in the area, the existence and activities associated with private residences, campground facilities, resorts, docks and recreational opportunities (including camping, fishing, beach day-use activities, boating, etc). These activities can contribute to reducing biodiversity, species abundance and density of macroinvertebrate assemblages by continuing to contribute above normal sediment loads into the stream channel and lake habitat. Trying to separate these actions and quantify the contributions from each activity would be impossible due to the scope of the area analyzed.

Due to ongoing activities throughout the June Loop Hazardous Fuels Reduction project analysis area, more than the natural sediment input to the stream and lake systems would continue to occur within the analysis area. The proposed action would have a minimal, if any, additional impact to the activities that already occur along the 3.2 miles of shoreline or within 0.2 miles of perennial stream channel within the project area.

The change in flow, sedimentation and shade are too small to be measured in the June Loop Hazardous Fuels Reduction project analysis area and too inter-twined with the impacts from other similar activities within the analysis area. The implementation of this project would not alter the existing trend in the habitat of aquatic macroinvertebrates across the Sierra Nevada bioregion.

Plants and Noxious Weeds

The following discussion of cumulative impacts is derived from analysis in the Biological Evaluation/Assessments for Sensitive Plant Species and Noxious Weed Risk Assessment, which are hereby incorporated by reference (Weis 2011a; Weis 2011b). The cumulative effects area is the June Loop Hazardous Fuels Reduction Project area.

There would be no impacts from the Proposed Action on Mono milk-vetch, subalpine fireweed, or the sensitive moonwort species, because these species are not found in proposed treatment units. Therefore, there would be no cumulative negative effect to any existing impacts for Mono milk-vetch, subalpine fireweed, or the sensitive moonwort species. There may be minimal local short-term impacts to the Mono Lake lupine, but burning may improve the habitat.

Based on the minimal direct and indirect impacts, the Proposed Action would not result in a significant cumulative effect overall to Mono Lake lupine, when combined with other past, present and reasonably foreseeable future activities, such as OHV and other recreational activity, previous wildfires, and activities associated with the town of June Lake and water management in the area. Based on the species' previous positive response to low to moderate intensity burning conducted for similar projects, no pile burning in occupied habitat, and opening up of shrub habitat, this project may impact individuals, but is not likely to cause a trend toward federal listing or a loss of viability for Mono Lake lupine.

With the Proposed Action, minor increases in noxious weeds, such as cheatgrass, could occur after shrub mowing in recreational developments where such weeds currently exist. However, mitigation measures would minimize any spread of existing weeds and new weed introduction should be avoided by equipment cleaning measures. The Proposed Action combined with existing recreational and residential uses in the project area, grazing, and past fires could pose a cumulative effect to spread cheatgrass or other weed populations. However, these effects would

not differ from the No Action Alternative where weed spread by existing recreational and residential use would continue, and there would be indirect impacts with the greater risk of a wildfire exacerbating cheatgrass or other weed populations.

Watershed and Riparian Areas

The following discussion of cumulative impacts is derived from analysis in the Hydrology and Soils Report, which is hereby incorporated by reference (Lutrick 2011a). The Equivalent Roaded Area (ERA) method was used to evaluate cumulative watershed effects. The ERA method compares the area and degree of land disturbance from human uses and land management to disturbance on roads for calculating a numerical index which represents percent of a watershed affected by cumulative impacts.

Cumulative effects were analyzed for the three HUC6 watersheds containing the project: Grant Lake-Rush Creek, Mono Craters Tunnel and Walker Creek-Rush Creek. Past, present and reasonably foreseeable future actions in these watersheds include past fuel reduction and timber management projects, June Mountain ski area, housing tract development, powerline construction and maintenance, past wildfires, existing roads, and implementation of the 2009 Travel Management decisions.

The 2009 Travel Management decision designated a system of roads and trails for public motor vehicle use. Designated routes causing soil and water problems will be mitigated in the next 5 years. As the Travel Management decision is implemented and motor vehicle use is eliminated, unauthorized routes will slowly revegetate over the course of 20 years. An unknown number of unauthorized routes will be blocked and disguised within the next 5 years to further discourage motor vehicle use. Therefore, travel management actions will reduce cumulative watershed effects and not add to disturbance caused by this project. This was taken into account in the CWE analysis, by using the designated travel system as the roads layer, rather than all routes that exist on the ground now. In the three watersheds in this analysis, there is little difference between the two systems.

Grant Lake-Rush Creek Watershed: The ERA for the Grant Lake-Rush Creek Watershed was estimated for the years 2011 through 2021. A complete description of the methodology can be found in the project record. The ERA increases slightly, with a 2011 estimate of 1.8% equivalent roaded area, and a 2021 estimate of 2.2%. The increase is due to the fact that the project is planned to be implemented over a 10 year period, with the disturbance added each year surpassing the recovery. Estimates for all years are well below the established Threshold of Concern (TOC) of 12-14%. This project is not proposing any new road construction. Primary and secondary skid trails, as well as temporary fire line and general off-road equipment travel in this project are the major sources which would add to the ERA total. The estimated 2% of the watershed compacted suggests that this project would not put the watershed over any threshold and there is a very low risk of cumulative watershed effects whether the project is implemented or not.

Mono Tunnel Watershed: The ERA for the Mono Tunnel Watershed was estimated for the years 2011 through 2021. The ERA decreases slightly, with a 2011 estimate of 7.4% equivalent roaded area, and a 2021 estimate of 7.0%. While the project is planned to be implemented over a 10 year period, with the disturbance added each year surpassing the recovery, most of the disturbance in

this watershed is due to ongoing impacts, particularly grazing, and previously implemented fuels projects. Estimates for all years are below the established Threshold of Concern (TOC) of 14-16%. Further, the estimate of 7% is likely an overestimate, because the majority of that is due to grazing. Grazing in general is poorly understood in terms of its cumulative watershed effects using the ERA method. Grazing in this watershed is authorized for sheep, not cattle. Because sheep grazing mostly takes place in the uplands and does not affect water quality or stream morphology, there is likely less of a CWE effect than calculated. However, the calculated number will be used due to lack of more accurate information.

This project is not proposing any new road construction. Primary and secondary skid trails, as well as temporary fire line and general off-road equipment travel in this project are the major sources which would add to the ERA total. The estimated 7% of the watershed compacted suggests that this project would not put the watershed over any threshold and there is a low risk of cumulative watershed effects whether the project is implemented or not.

Walker-Rush Creek Watershed: The ERA for the Walker-Rush Creek Watershed was estimated for the years 2011 through 2021. The calculated ERA remains essentially constant, with a 2011 estimate of 3.12% equivalent roaded area, and a 2021 estimate of 3.11%. Estimates for all years are well below the established Threshold of Concern (TOC) of 14-16%. The change is so small because almost the entire calculated ERA is due to existing, steady levels of disturbance, including roads and grazing. This project would only affect about 50 acres per year (assuming it would be implemented over 5 years in this watershed), and is not proposing any new road or landing construction. Therefore, this project would have very little effect to the watershed's ERA.

Primary and secondary skid trails, as well as temporary fire line and general off-road equipment travel in this project are the primary activities adding to the ERA total, although the effect should be very small, particularly because there is no surface water within the project area. The estimated 3% of the watershed compacted suggests that this project would not put the watershed over any threshold and there is a very low risk of cumulative watershed effects whether the project is implemented or not.

In conclusion, there would be no cumulative effect to water quality resulting from implementation of the proposed action. Sporax™ applied to tree stumps would not migrate to stream channels due to the nature of application and characteristics of the chemical and design criteria. The project would not affect streamflow, and therefore there would be no cumulative effects to streamflow.

Beneficial uses and water quality objectives identified by the Lahontan Water Quality Control Board and the Federal Clean Water Act would be met. The proposed action is consistent with the Aquatic Management Strategy for the Sierra Forests, as required by the 2004 SNFPA Record of Decision (ROD) and fully meets the Riparian Conservation Objectives as stated in the ROD.

The project may have very minor, local adverse effects to stream morphology, but they should be so small and local that they cannot have any measurable cumulative effects when added to other disturbance in the watershed. Rush Creek, which, along with its tributaries, flows through the

project units, has profoundly altered geomorphology and streamflow due to dams and diversions, as well as the previous construction of roads, culverts, and other development. The few areas of stream that could have some very slight disturbance due to this project would have no effect on overall stream function or hydrology, and therefore there would be no added disturbance to what currently exists.

There would be a minor and small addition of soil disturbance, due to new skid trails, fire lines, and general off-road travel by mechanized equipment. As described above, this disturbance may have local negative effects to soil productivity, but these effects should be short-term and would overall pose no threat to the watersheds' productivity. Even added to current effects from development, the watersheds still retain good soil productivity and the cumulative effects would not prevent soil standards from being met (Lutrick 2011a).

Air Quality

The following discussion of cumulative impacts is derived from analysis in the Air Quality Report, which is hereby incorporated by reference (Lutrick 2011b). The cumulative effects area was defined as all lands within and adjacent to the project area in the Mono Lake basin.

Past, present and reasonably foreseeable future actions on both public and private lands within and adjacent to the project area include PM_{10} effects from roads, vehicle emissions, residential wood burning, road cinders, wildfires and prescribed burning, and lake shore windblown dust. The Mono Basin PM_{10} State Implementation Plan (SIP) (GBUAPCD 1995) published estimates of PM_{10} emissions from all known activities.

Under existing conditions, windblown dust from Mono Lake's dry shoreline made up about 86% of the annual PM-10 emissions in the Mono Basin, with most of the rest attributable to dust from unpaved roads (2%), road cinders (7%), and wildfire and prescribed burning (4%). Vehicle emissions and residential wood burning contributed very little to the annual PM_{10} emissions (about 1%). These conditions would persist under the No Action Alternative, with greater risk of high intensity wildfire and associated high levels of PM_{10} emissions.

The Proposed Action design criteria minimize the likelihood of adverse affects from dust or smoke from this project to minor levels. With estimated PM_{10} emissions from this project of 9-26 tons annually, the contribution would be negligible compared to the estimated 5,670 tons emitted from Mono Lake lakeshore windblown dust. Mono Lake will continue to be a source of PM_{10} for the Mono Basin, at least until the lake level rises to 6,391 feet (GBUAPCD, 1995), and until then, PM_{10} standards may not be met in this area. However, this project should not contribute enough increased PM_{10} to be measurable over more than a few hour period.

Under the Proposed Action, burning would not occur on days with high concentrations of windblown dust from Mono Lake. Therefore, PM_{10} from this project would not add to Mono Lake effects on any day to create PM_{10} levels that would exceed the State or Federal Standards. Burning for this project would also not occur during the same time period as any wildfires (which usually occur in summer or early fall), and would not occur during the height of the tourism season when road dust and fuel emissions are the highest. However, burning would occur during winter when residential wood burning and road cinders contribute to PM_{10} levels. With design criteria implemented, and with limited burning in any one year or on any one day,

this project would not cause ambient air quality standards to be exceeded, even in combination with other activities (Lutrick 2011b).

Cultural Resources

The following discussion of cumulative impacts is derived from analysis in the Cultural Resources Report which is incorporated by reference (Kerwin 2011). The cumulative effects area was defined as the Mono Lake Basin.

The No Action alternative would maintain current fuel loads which are ideal for a high intensity stand-replacing wildfire as was seen during the June Fire of 2007, and the Mono Fire of 2010, both of which occurred north of the June Loop proposed treatment area. In the event of a wildfire in the project area, the cumulative effects of any future fire would potentially result in a greater loss of cultural resources and information.

Standard Resource Protection Measures for cultural resources would be incorporated into the Proposed Action, and no adverse effects were predicted in the analysis; therefore there would also be no adverse cumulative effects of the project on cultural resources (Kerwin 2011).

The Proposed Action would reduce the likelihood of high intensity fire spread into outlying areas with unrecorded historic and prehistoric resources (Kerwin 2011). Thus, benefits of this fuels treatment would compliment prior federally funded fuels treatments on Inyo National Forest Lands. The proposed action is similar to the June Lake Fuelbreak, Timber Stand Improvement projects and associated prescribed fire treatments within the Jeffrey Pine forest, which are north-east and adjacent the project area, and which began in 1975 and will continue being implemented.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

It was determined that there would be no effect to cultural resources from implementing this project, and the proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (see Cultural Resource effects analysis under FONSI Element (1) above (pg. 37).

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There are no federally listed threatened or endangered wildlife or plant species that are known to occur or have suitable habitat (including critical habitat) within the project area. There would be no effect to federally listed threatened or endangered wildlife or plant species or critical habitat from implementation of the proposed action (Weis 2011a; Perloff and Sims 2011).

There is habitat for one federal Candidate species, the sage-grouse. Analysis of effects to this species is found under Issue #2 (pg. 18). The determination by the wildlife biologists was that the proposed action may impact individuals, but would not lead toward federal listing or a loss of viability for sage-grouse (Perloff and Sims 2011).

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The proposed action would not threaten a violation of Federal, State, or local law, or requirements imposed for the protection of the environment. The proposed action is consistent with the Healthy Forest Restoration Act (HFRA), National Environmental Policy Act (NEPA), National Forest Management Act (NFMA), Endangered Species Act (ESA), Clean Water Act, and the National Historic Preservation Act (NHPA), Migratory Bird Treaty Act, and the Native American Indian Religious Freedom Act. The proposed action is also consistent with the Inyo National Forest Land and Resource Management Plan (USDA Forest Service 1988), as amended by the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2001; USDA Forest Service 2004).

Tribes, Organizations, Agencies, and Persons Consulted

- Benton Paiute Reservation- U tu UTU GWAITU Paiute Tribe
- Bishop Paiute Tribe of the Owens Valley
- Bridgeport Indian Colony
- MONO LAKE KUTZADIKA[A] Indian Cultural Preservation Foundation
- MONO LAKE KUTZADIKA[A] Tribe
- June Lake Citizens Advisory Committee
- June Lake Fire Safe Council
- June Lake Volunteer Fire Protection District
- June Lake Chamber of Commerce
- June Mountain Ski Area
- Los Angeles Department of Water and Power
- Lahontan Water Quality Control Board
- Mono County Board of Supervisors
- US Fish and Wildlife Service
- CA Department of Fish and Game
- CA Department of Transportation
- Great Basin Air Quality Control Board
- Southern California Edison
- Owners of Frontier Pack Station, Silver Lake Resort, Big Rock Resort, Boulder Lodge, Pine Cliff Resort, Grant Lake Marina, Gull Lake Marina, and June Lake Junction Store
- Recreation residence permittees from Silver Lake, Gull Lake, June Lake and Crater Tracts
- Adjacent landowners

For a complete list of individuals and interest groups, including all adjacent landowners, refer to the project record available at the Forest Service Mammoth District Office.

List of Preparers

- Dale Johnson, Interagency Vegetation Management Program Leader and Silviculturist, Bishop BLM and Inyo National Forest
- Sue Farley, Interagency Vegetation Management Planner and Project Leader, Inyo National Forest and Bishop BLM
- Richard Perloff, Wildlife Biologist, Inyo National Forest
- Leeann Murphy, Wildlife Biologist, Inyo National Forest
- Lisa Sims, Aquatic Biologist, Inyo National Forest
- Erin Lutrick, Hydrologist, Inyo National Forest
- Sue Weis, Botanist, Inyo National Forest
- William Kerwin, Interagency Fuels Archaeologist, Bishop BLM and Inyo National Forest

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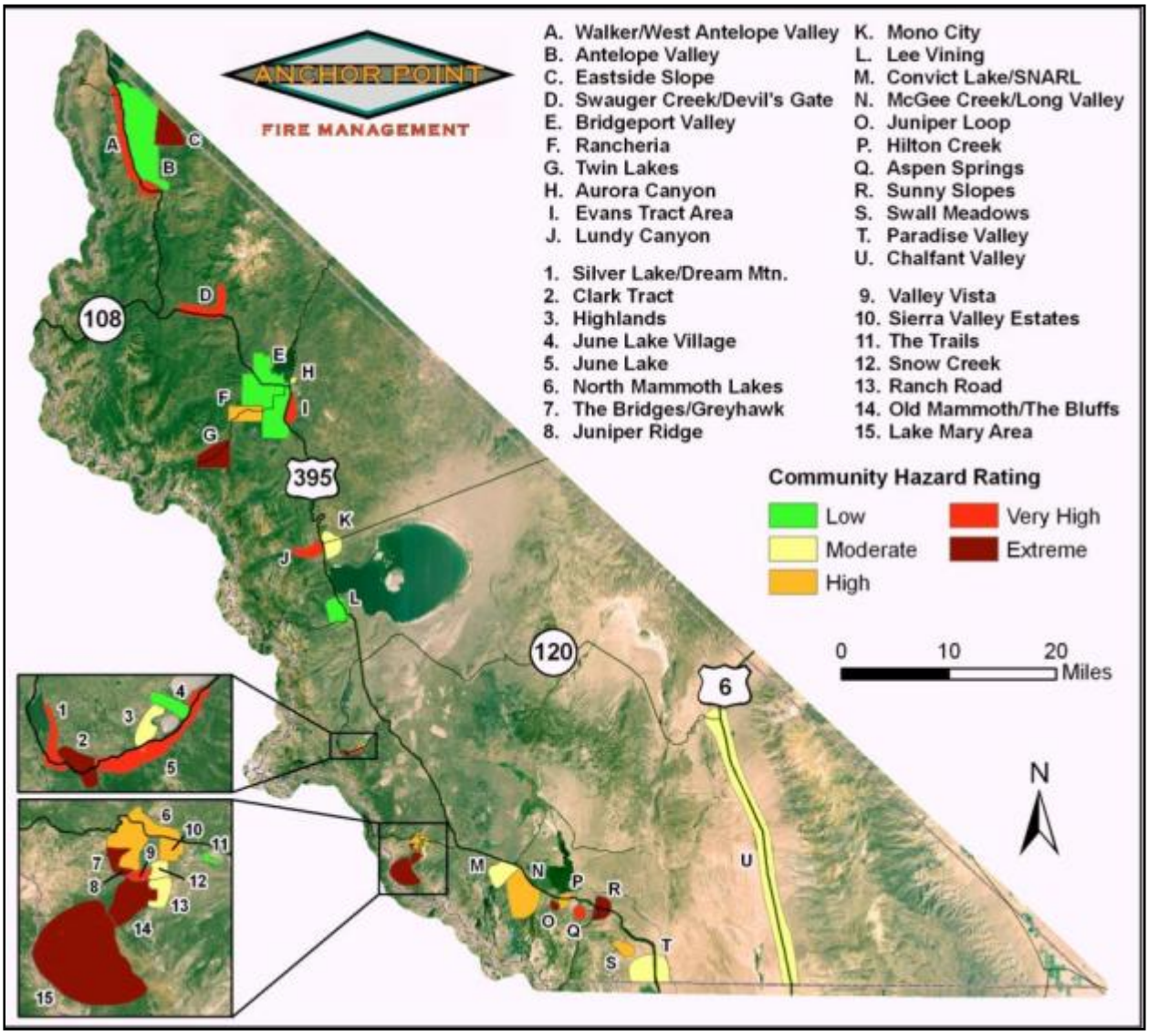
Appendix A:

Mono County Community Wildfire Protection Plan (CWPP 2009): Map of community risk levels. The project area includes communities labeled 1 through 5 on the map.



Appendix B:

Photos of hazardous fuels conditions in the project area.

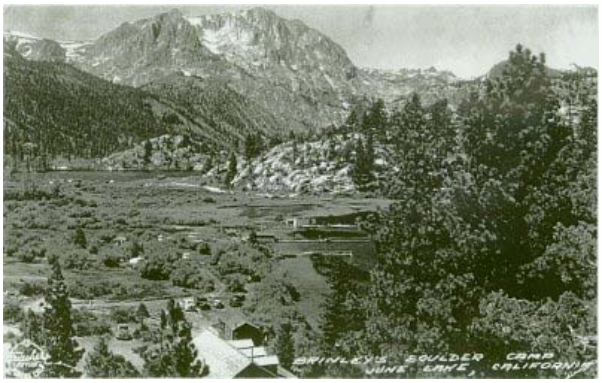


Figure 3. Historic photo near modern-day Big Rock Resort: comparison to contemporary photo (Figure 4); note lower tree density under historic conditions.

Figure 4. Contemporary photo near Big Rock Resort (treatment unit DZ-12): comparison to historical photo (Figure 3); note increased tree density under existing conditions.

Figure 5. Dense trees with ladder fuels conditions close to homes (treatment unit DZ-11).

Figure 6. Clark Tract community with homes (barely visible in background) embedded in dense vegetation; note tree mortality is evident under existing conditions (treatment unit A-01).

Appendix C:

Response to Comments

Comment	**Issue subject** (corresponds to list of issues on page 4)	**Response**
Suggests need for Right-of-Way (ROW) Encroachment Permit from the CA Dept. of Transportation (CalTrans) for placement of Prescribed Burn signs along state highways during project implementation. Requests Inyo NF inform CalTrans when USFS will be conducting fuels reduction work near state highways.		CalTrans ROW Encroachment Permit has been obtained by Inyo NF (Johnson, March 2011). Inyo NF would notify CalTrans prior to project implementation, when fuels reduction work would occur near state highways. The CalTrans contact person is specified in the ROW Encroachment Permit.
Supports fuels reduction work; included attachment titled, "Preparing for the Effects of Climate Change – a Strategy for CA"		Reviewed information in the attached document, "Preparing for the Effects of Climate Change – a Strategy for CA". The Proposed Action would be consistent with recommendations in this document for management of hazardous fuels to reduce risk of catastrophic wildfire in the wildland urban interface.
Concern about project effects on mule deer and their habitat, especially their migration corridor in unit PF-01.	(1) Impacts to mule deer and their habitat.	Impacts to mule and their habitat with the Proposed Action have been evaluated in the Effects Relative to Issues section of the EA (page 4).
Prescribed burning in unit PF-01 may impact sage-grouse during nesting or seasonal migration, and the preliminary proposal for 3-years post-burn vegetation monitoring	(2) Impacts to sage-grouse and habitat with prescribed burning in unit PF-01.	The measures recommended to address concerns have been incorporated into the Proposed Action design features. These recommendations are: 1. Conduct prescribed burning in unit PF-01 outside of sage grouse nesting season (April to May), and/or if burning during nesting season, then have qualified

Comment	Issue subject (corresponds to list of issues on page 4)	Response
may not be adequate to evaluate recovery of sagebrush habitat. Recommend measures to address these concerns.		biologist survey planned burn area to locate and avoid potential nest sites; 2. When sage grouse are migrating between summer range at Parker Meadows and winter range east of Hwy. 395, conduct prescribed burning in southern portion of proposed treatment unit PF-01, and/or if burning during migration, then have qualified biologist survey planned burn area to assure grouse are not present; 3. Recommend increasing duration of post-burning vegetation / sage grouse habitat monitoring in unit PF-01 (currently proposed for 3 years following implementation). Impacts to sage-grouse and their habitat in unit PF-01 have been evaluated in the Effects Relative to Issues section of the EA (page 4).
Concern about impacts to migratory birds during nesting season. Recommend measures to address these concerns.	(3) Impacts to nesting neotropical migratory birds.	The measures recommended to address this concern have been incorporated into the Proposed Action design features. These recommendations are: • land clearing or other surface disturbance...be timed to avoid potential destruction of bird nests or young, or birds that breed in the area", and/or if operating during nesting season, then have a qualified biologist survey to locate and avoid nesting birds in the area during implementation. Impacts to neotropical migratory birds have been evaluated in the Effects Relative to Issues section of the EA (page 4).
Supports fuels reduction work; recommends removal of dead conifers along Hwy. 158 and near private property in down canyon area		Under the Proposed Action trees would be thinned in areas along Hwy. 158 and near private property in the down canyon area, including in proposed fuels reduction units DZ-06 through DZ-12 and A-01.
Advises possible need for timber waiver (TW); recommends TW application include classification of water		Inyo NF would apply for a TW at least 30 days prior to project implementation. Information regarding classification of water courses, location of proposed operations in Water-body Buffer Zones (WBZs) and

Comment	Issue subject (corresponds to list of issues on page 4)	Response
courses, location of proposed operations in Water-body Buffer Zones (WBZs) and watershed mitigation measures		watershed mitigation measures has been evaluated in the Hydrology and Soil Report (Lutrick 2011a). This information would be included in the TW application.
Requests copies of scoping documents and maps for June Loop Fuels project proposal.		Requested information was provided. No additional comment was received.
Supports fuels reduction work; requests personal use fuelwood be made available during life of project; suggests work near homes be first priority; wants to be kept apprised of project via email.		Personal use fuelwood would be made available under the Proposed Action. Fuels reduction work near homes in the June Lake Loop is high priority, which is reflected in the design of the Proposed Action where 657 acres of defense zone treatments are proposed. It is expected proposed defense zone treatments would require multiple years to complete because of the large number of acres where work is proposed. Nonetheless, proposed defense zone fuels reduction work would be completed in as short a time frame as possible, given constraints such as weather, snow-pack and short operating season, or budget. A News Release would be sent to local media outlets to inform the public prior to project implementation, and including notification for availability of personal use fuelwood. Paper copies of the News Release would be posted on public bulletin boards within the community of June Lake, such as at the Post Office, Library and local market. In addition, an electronic copy of the News Release would be mailed to the individual making this request to be kept apprised of the project.
Supports fuels reduction work; favorably impressed with detail and thoughtfulness of project proposal; requests notification when project will be		A News Release would be sent to local media outlets to inform the public prior to project implementation. Paper copies of the News Release would be posted on public bulletin boards within the community of June Lake, such as at the Post Office, Library and local market. In addition, a copy of the News

Comment	Issue subject (corresponds to list of issues on page 4)	Response
implemented.		Release would be mailed to the individual making this request to be kept informed of the project.

Appendix D:
References

Bleich, V. C., Becky M. Pierce, Jennifer L. Hones, R. Terry Bowyer. 2006. Variance in survival of young mule deer in the Sierra Nevada, California. California Fish and Game 92(1):24-38

Cal Fire. 2006. General guidelines for creating defensible space. State Board of Forestry and Fire Protection (BOF), California Department of Forestry and Fire Protection. Available at: www.fire.ca.gov

Call W. Mayo and Chris Maser. 1985. Wildlife Habitats in Managed Rangelands-The Great Basin of Souteastern Oregon, Sage-Grouse. Pacific Northwest Forest and Range Experiment Station, U.S. forest Service. General Technical Report PNW-187. 1985. p. 17-21

Casazza, M. L., Overton, C. T., Torregrosa, A. 2005. Ecology of greater sage-grouse in the Bi-State planning area. Progress Report March 2005. Western Ecological Research Center, USGS

CDFG. 2010. Upland game bird hunting regulations. California Fish and Game Commission. Sacramento, CA

Coates, P.S. and D.J. Delehanty. 2010. Nest Predation of Greater Sage-Grouse in Relation to Microhabitat Factors and Predators. Journal of Wildlife Management 74(2):240-248

Ellis, K. L. 1984. Behavior of lekking greater sage-grouse in response to a perched golden eagle. Western Birds 15:37–38

Ellis, K. L. 1987. Effects of a new transmission line on breeding male greater sage-grouse at a lek in northwestern Utah [abstract]. Page 15 in J. Roberson, chairman. Fifteenth greater sage-grouse workshop transactions of the Western States Greater Sage-Grouse Committee, 28–30 July 1987. Western Association of Fish and Game Agencies, Midway, Utah, USA

EMA (Environmental Management Associates). 2003. Analysis of Caltrans deer kill data U. S. Highway 395, Mono County, California. EMA Report No. 1829-01. March 2003. Prepared for Mammoth Pacific, L. P

Fettig, C.J., Klepzig, K.D., Billings, R.F., Munson, A.S., Nebeker, T.E., Negron, J.F., Nowak, J.T. 2007. The effectiveness of vegetation management practices for prevention and control of bark beetle infestations in coniferous forests of the western and southern United States. Forest Ecology and Management 238 (2007) 24-53.

Graham, R., T. Jain and M. Loeske. 2009. Fuel Treatments, Fire Suppression, and Their Interactions WithWildfire and its Effects: The Warm Lake Experience During the Cascade Complex of Wildfires in Central Idaho, 2007. General Technical Report, RMRS-GTR-229. Rocky Mountain Reasearch Station, USDA Forest Service.

Great Basin Unified Air Pollution Control District. 2001. Personal communication with Jon Becknell.

Great Basin Unified Air Pollution Control District (GBUAPCD). 1995. Mono Basin Planning Area PM-10 State Implementation Plan. Accessed at http://www.gbuapcd.org/mbpm10sip.htm.

Hickman, James C., editor. 1993. The Jepson Manual: higher plants of California. University of California Press. Berkeley and Los Angeles, CA. 1400 pp.

Johnson, D. (2011). Silviculturist Report for June Loop Hazardous Fuels Reduction Project. Mammoth Lakes, CA, Inyo National Forest.

Kerwin, W. (2011). Cultural Report for June Loop Hazardous Fuels Reduction Project. Mammoth Ranger District Office, Mammoth Lakes, CA.

Lutrick, E. (2011a). June Loop Hazardous Fuels Reduction Project - Hydrology and Soils Report. Mammoth Lakes, CA, Inyo National Forest.

Lutrick, E. (2011b). Air Quality Analysis for June Loop Hazardous Fuels Reduction Project. Mammoth Lakes, CA, Inyo National Forest.

Marra, P. P., S. Griffing, C. Caffrey, A. M. Kilpatrick, R. McLean, C. Brand, E. Saito, A. P. Dupuis, L. Kramer and R. Novak. 2004. West Nile virus and wildlife. BioScience 54:393-402Martinson, E. J. and P. N. Omi (2003). Performance of Fuel Treatments Subjected to Wildfires. USDA Forest Service Proceedings. **RMRS-P-29**.

McLean, R.G. 2006. West Nile virus in North American birds. Ornithological Monographs 60: 44-64

Mono County Community Development Department. 2007. Mono Basin Watershed Assessment. March 2007. Accessed on website: http://www.monocounty.ca.gov/cdd%20site/Planning/Documents/Assessments_MonoBasin.pdf on 3/22/11.

Mono County, CA (2009). Community Wildfire Protection Plan, Mono County, CA. Boulder, CO, Anchor Point Group.

Naugle, D. E., C. L. Aldridge, B. L. Walker, T. E. Cornish, B. J. Moynahan, M. J., Holloran, K. Brown, G. D. Johnson, E. T. Schmidtmann, R. T. Mayer, C. Y. Kato, M. R. Matchett, T. J. Christiansen, W. E. Cook, T. Creekmore, R.D. Falise, E. T. Rinkes and M.S. Boyce. 2004. West Nile virus: pending crisis for greater sage-grouse. Ecology Letters 7:704-713

Naugle, D.E., C.L. Aldridge, B.L. Walker, K.E. Doherty, M.R. Matchett, J. McIntosh, T.E. Cornish, and M.S. Boyce. 2005. West Nile virus and sage-grouse: What more have we learned. Wildlife Society Bulletin 33: 616-623

Otrosina, W.J., Scharpf, R.F. 1989. Research and management of annosus root disease (*Heterobasidion annosum*) in western North America. Gen. Tech. Rep. PSW-116, USDA For. Serv., PSW Res. Sta.Pollet, J. and P. N. Omi (2002). "Effect of thinning and prescribed burning on crown fire severity in ponderosa pine forests." International Journal of Wildland Fire **11**(1): 1-10.

Perloff, R. (2011). Mule Deer Report for June Loop Hazardous Fuels Reduction Project (Supplement). Mammoth Lakes, CA, Inyo National Forest.

Perloff, R. and L. Sims (2011). Terrestrial Wildlife Biological Evaluation/Assessment, Management Indicator Species Report, and Neotropical Migratory Bird Report: June Loop Hazardous Fuels Reduction Project. Mammoth Lakes, CA, Inyo National Forest.

Prichard, S., D. Perterson, and K. Jacobson. 2010. Fuel treatments reduce the severity of wildfire effects in dry mixed conifer forest, Washington, USA. Can. J. For. Res. **40**: 1615–1626 (2010). Published on the NRC Research Press Web site at cjfr.nrc.ca.

Reisen, W.K., Y. Fang, and V.M. Martinez. 2006. Effects of temperature on the transmission of West Nile Virus by Culex tarsalis (Diptera: Culicidae). Journal of Medical Entomology 43: 309-317

Safford, H. D., D. A. Schmidt, et al. (2009). "Effects of fuel treatments on fire severity in an area of wildland-urban interface, Angora Fire, Lake Tahoe Basin, California." Forest Ecology and Management **258**(5): 773-787.

US Fish and Wildlife Service. 2011. Letters from USFWS to USFS, 2003. Updated online 1/25/11 (Mono County). http://ecos.fws.gov/ipac/wizard/managementActionList!actionList.action

USFS. 1994. Inyo National Forest Sensitive Plant Field Guide. Bishop, CA: Inyo National Forest.

USDA Forest Service, Inyo National Forest (1988). Land and Resource Management Plan. Bishop, CA.

USDA Forest Service, Pacific Southwest and Intermountain Regions (2001). Sierra Nevada Forest Plan Amendment - Final Environmental Impact Statement (EIS). Vallejo, CA.

USDA Forest Service, Pacific Southwest and Intermountain Regions (2004). Sierra Nevada Forest Plan Amendment - Final Supplemental Environmental Impact Statement (SEIS) and Record of Decision (ROD). Vallejo, CA.

USDA Forest Service, Pacific Southwest Region (2004). Stipulation XIV in the *Programmatic Agreement amount the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation regarding the identification, evaluation, and treatment of historic properties managed by the National Forests of the Sierra Nevada, California* (Sierra PA). USDA Forest Service, Pacific Southwest Region.

USDI Fish and Wildlife Service. 2008. Greater sage-grouse interim status update. Mountain-Prairie Region, Wyoming Ecological Services Office. 240pp

Walker, B.L. and D.E. Naugle. 2009. West Nile Virus ecology in sagebrush habitats and impacts on greater sage-grouse populations. Section II: Ecology of greater sage-grouse: Chapter 10. *In*: Marti, C.D., ed. Ecology and conservation of greater sage-grouse: A landscape species and its habitats. A release of a scientific monograph

with permission of the authors, the Cooper Ornithological Society, and the University of California Press. Edited by Studies in Avian Biology, Boise, Idaho

Weis, S. (2011b). Noxious Weed Risk Assessment: June Loop Hazardous Fuels Reduction Project. Mammoth Lakes, CA, Inyo National Forest.

Weis, S. and K. Nelson (2011a). Biological Evaluation for Sensitive Plants: June Loop Hazardous Fuels Fuels Reduction Project. Mammoth Lakes, CA, Inyo National Forest.

June Lake Fire Protection District

P. O. BOX 144
JUNE LAKE, CALIFORNIA 93529

TELEPHONE (760) 648-7390 FAX (760) 648-6801

To whom it may concern:

The June Lake Fire Protection District is in total support of any Hazardous Fuel Reduction that can be done in our area. Based on the 2009 Mono County Community Wildfire Protection Plan the June Lake Loop has the following Community Hazard Ratings:

Silver Lake/Dream Mtn.	Very High
Clark & Peterson Tract	Extreme
Highlands	Moderate
June Lake Village	Low
June Lake	Very High

Very little work has been done to this date to reduce the hazard. We look forward to progress being made to reduce these hazard.

Jerry Allendorf

Jerry Allendorf

Chief June Lake Fire Dept.

January 14, 2012

The June Lake Fire Safe Council would like to express complete support of the Proposed USFS fuels reduction in the "Down Canyon" area

This fuel reduction is extremely necessary and important for the fire safety of the Community of June Lake. The proposed thinning of trees and brush is vital in our Overgrown forest areas.

Additionally this fuel reduction is needed to improve the health of the forest.

Andy Gilmore
chairman

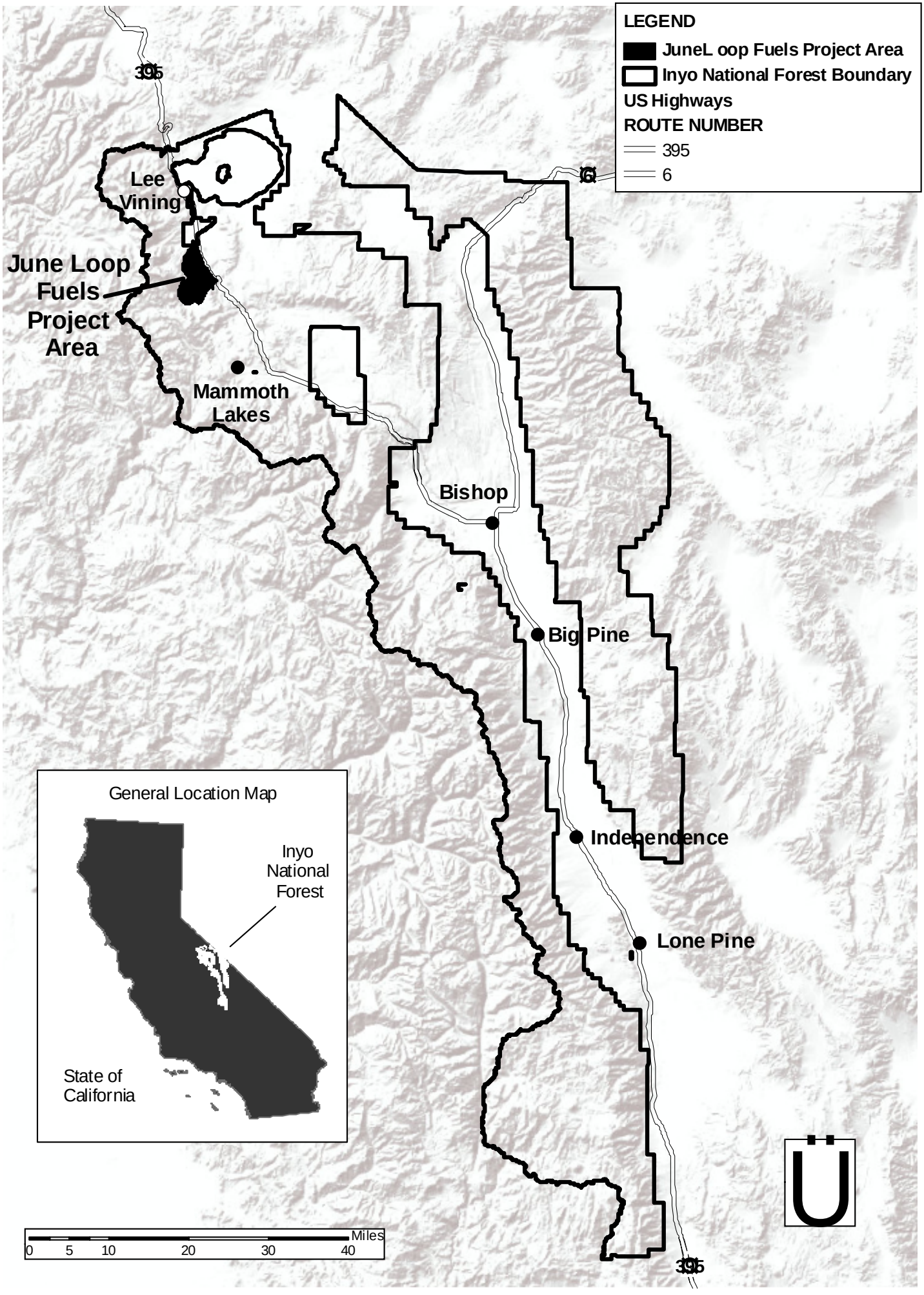
June Lake Fire Council
P.O. Box 190
June Lake, CA 93529

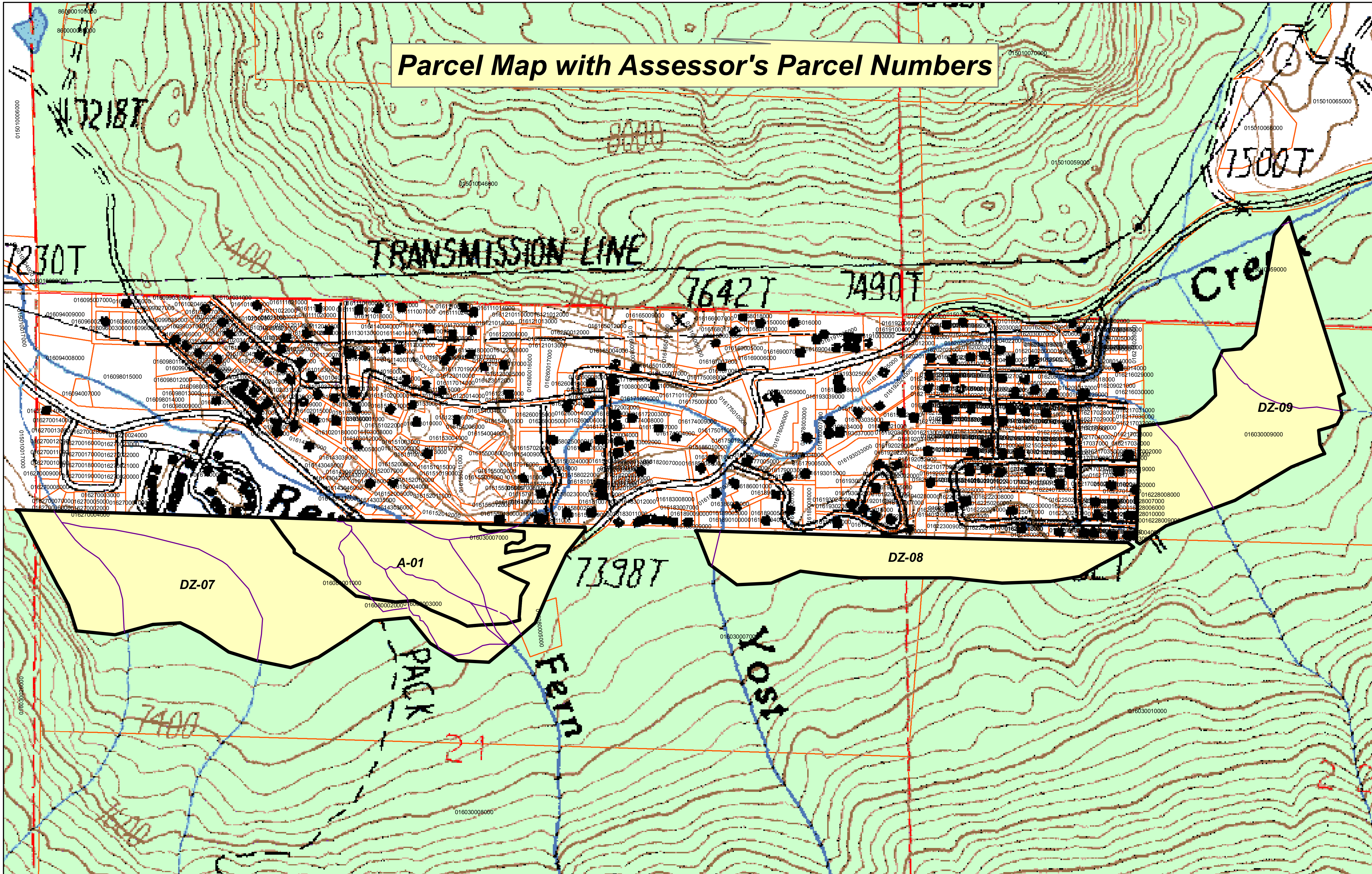
a.) Long-Term Management and Sustainability

The alternative selected in the Decision Notice for the June Loop Hazardous Fuels Reduction Project specifically recognizes the need for periodic maintenance for fuels reduction treatments to maintain their effectiveness over time. The Inyo National Forest has implemented numerous fuels reduction projects over the past decade and some of the individual treatments within these projects have already received at least one maintenance treatment.

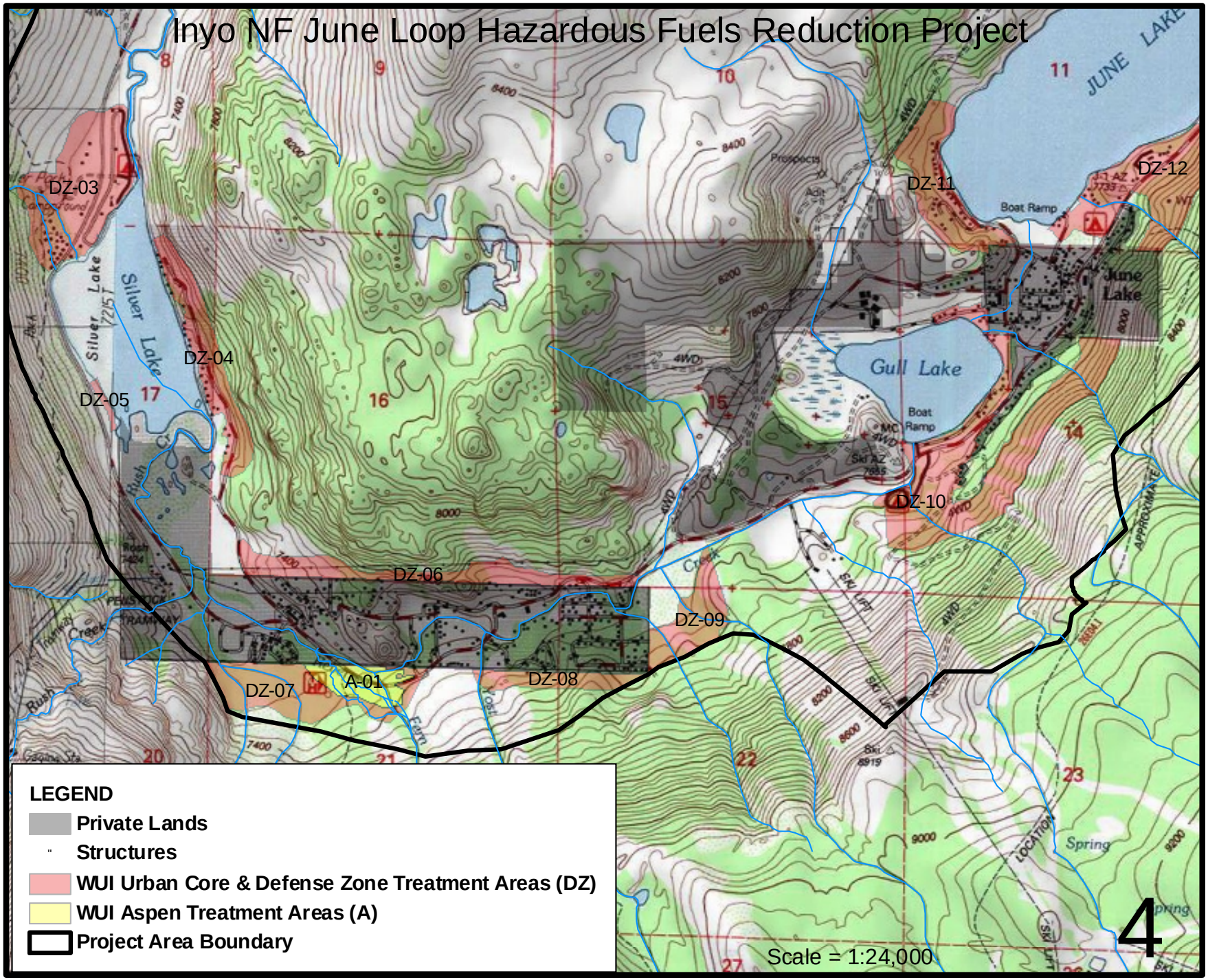
The treatments for the 4 units proposed in this application are anticipated to retain their effectiveness for a minimum of 10 years, and perhaps not need maintenance treatment for 20 years. The table below summarizes the anticipated 20-year maintenance plan. Maintenance treatments would be funded through the annual congressionally-authorized appropriations to the Forest Service for fuels reduction work.

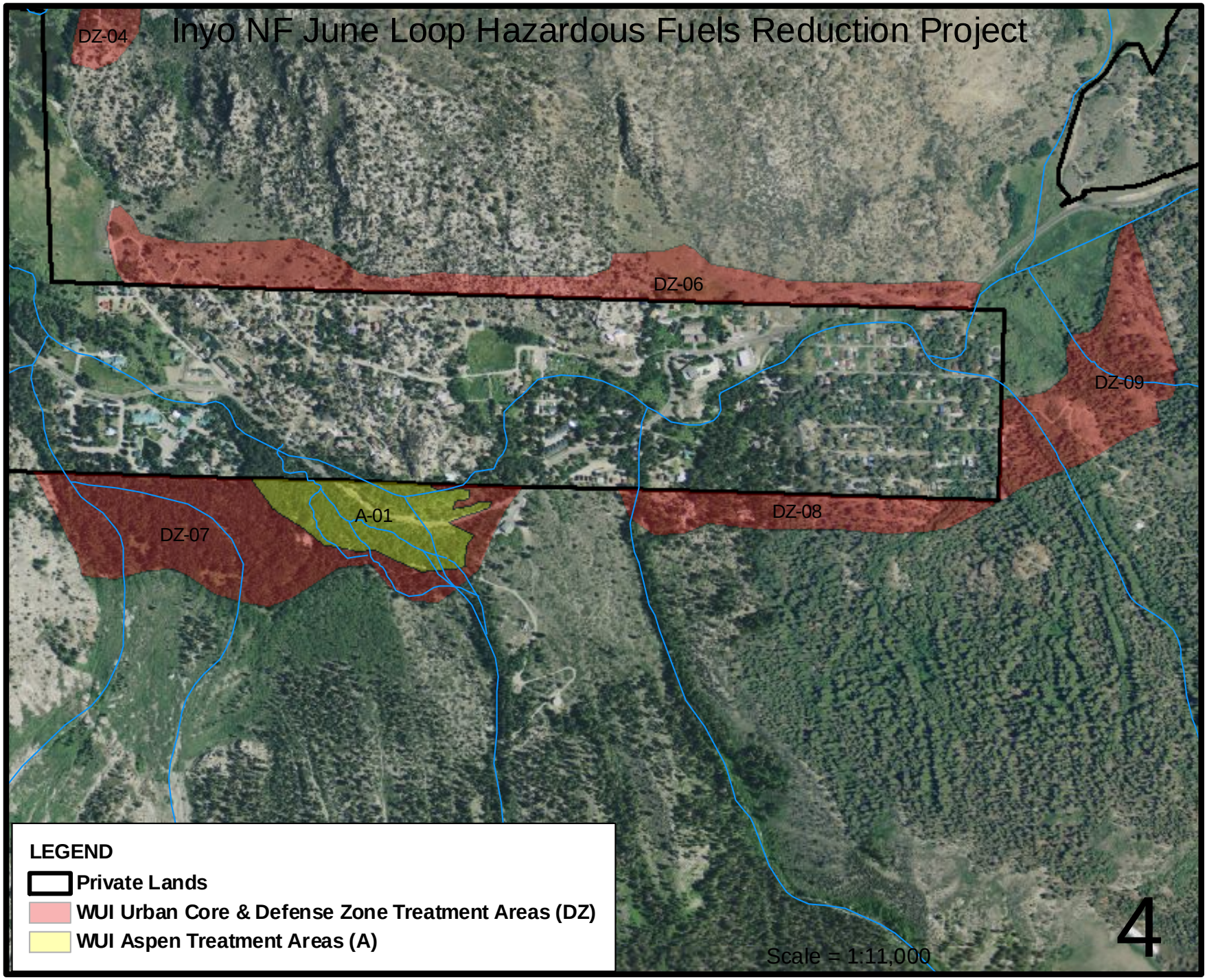
Year	Units	Treatments Anticipated
2023	DZ-08 & 09	Additional tree cutting, pruning, and slash disposal
2024	DZ-07 & A-01	Additional tree cutting, pruning, and slash disposal
2033	DZ-08 & 09	Additional tree cutting, pruning, and slash disposal
2034	DZ-07 & A-01	Additional tree cutting, pruning, and slash disposal


LEGEND
JuneL oop Fuels Project Area
Inyo National Forest Boundary
US Highways
ROUTE NUMBER
395
6
395
6
Lee Vining
June Loop Fuels Project Area
Mammoth Lakes
Bishop
Big Pine
Independence
Lone Pine
395
General Location Map
Inyo National Forest
State of California
Miles
0 5 10 20 30 40



Parcel Map with Assessor's Parcel Numbers


Inyo NF June Loop Hazardous Fuels Reduction Project
DZ-03
DZ-04
DZ-05
DZ-06
DZ-07
DZ-08
DZ-09
DZ-10
DZ-11
DZ-12
A-01
Silver Lake
Gull Lake
June Lake
Boat Ramp
LEGEND
Private Lands
Structures
WUI Urban Core & Defense Zone Treatment Areas (DZ)
WUI Aspen Treatment Areas (A)
Project Area Boundary
Scale = 1:24,000
4


Inyo NF June Loop Hazardous Fuels Reduction Project
DZ-04
DZ-06
DZ-09
DZ-08
DZ-07
A-01
LEGEND
Private Lands
WUI Urban Core & Defense Zone Treatment Areas (DZ)
WUI Aspen Treatment Areas (A)
Scale = 1:11,000
4

Photos of the Project Site

Smaller diameter white fir crowd aspen along stream in Unit A-01. Long-time residents of the area state this site was a pure aspen stand, with no conifers, 40-50 years ago.

Smaller diameter lodgepole crowd aspen along stream in Unit A-01. Note absence of riparian shrubs along stream bank.

Small white fir form dense ladder fuels beneath dead lodgepole pines in an area adjacent to the stream in Unit DZ-07.

Smaller diameter white fir crowd aspen along stream in Unit DZ-07. Note: aspen mortality because of conifer competition, and heavy ground fuel loads associated with many dead and down aspen.

Looking across a meadow wetland to conifers crowding aspen in Unit DZ-09 (left, middle ground) and Unit DZ-08 (right, background).

White fir forms a dense conifer canopy with small tree ladder fuels in Unit DZ-08.

Smaller diameter white fir crowd aspen along stream in Unit DZ-09.

Smaller diameter conifers crowd riparian shrubs along stream in Unit DZ-09.

Additional Requirements for Site Improvement Projects

Land Tenure

Not applicable – project is entirely on National Forest System lands, under management by the Inyo National Forest.

Site Plan

Not applicable – fuels reduction project only.

Leases or Agreements

Not applicable – none needed for this project.

Additional Requirements for Site Improvement Projects

Land Tenure

Not applicable – project is entirely on National Forest System lands, under management by the Inyo National Forest.

Site Plan

Not applicable – fuels reduction project only.

Leases or Agreements

Not applicable – none needed for this project.

Additional Requirements for Site Improvement Projects

Land Tenure

Not applicable – project is entirely on National Forest System lands, under management by the Inyo National Forest.

Site Plan

Not applicable – fuels reduction project only.

Leases or Agreements

Not applicable – none needed for this project.